Lancashire County 1927.

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SCHOOL MEDICAL SUB-COMMITTEE.

County Alderman W. Hodgson (Chairman)
County Alderman H. Wade Deacon
County Alderman S. Taylor
County Alderman J. T. Travis-Clegg
County Alderman J. Whittaker
County Alderman A. Walkden
County Alderman H. Winstanley
County Councillor P. H. Altham
County Councillor J. W. Baron
County Councillor E. Boothman
County Councillor J. G. Dickinson
County Councillor R. Dilworth
County Councillor J. Eastham
County Councillor Mrs. K. M. Fletcher
County Councillor A. Guest
County Councillor Rev. A. M. Mitchell
County Councillor A. Liddell Poole
County Councillor G. M. Robertson
County Councillor W. M. Rogerson
County Councillor W. A. Spofforth
County Councillor A. H. Turner
County Councillor E. Walkden
The Right Rev. The Lord Bishop Suffragan of Barrow-in-Furness, D.D.
The Right Rev. The Lord Bishop Suffragan of Whalley, D.D.
Very Rev. Canon M. Duffy
Mr. T. Allcott
Mrs. R. C. Assheton
Miss G. B. Ayre

DEFECTIVE CHILDREN SUB-COMMITTEE.

County Alderman W. Hodgson
County Alderman S. Taylor
County Alderman J. T. Travis-Clegg
County Alderman A. Walkden
County Councillor J. W. Baron
County Councillor E. Boothman
County Councillor Mrs. K. M. Fletcher
County Councillor A. Guest
County Councillor W. M. Rogerson
County Councillor A. H. Turner
The Right Rev. The Lord Bishop Suffragan of Whalley, D.D.

Director of Education :
P. E. Meadon, M.A.

MEDICAL STAFF.

(Jointly with the Public Health Department).

County Medical Officer of Health and School Medical Officer:

J. J. Butterworth, M.D., Ch.B., D.P.H.

Chief Assistant County Medical Officers:

J. Ferguson, B.A., M.B., Ch.B., D.P.H.
R. H. W. Fisher, M.A., M.R.C.S., L.R.C.P., D.P.H.

Assistant County Medical Officers:

L. E. H. R. Barker, B.A., M.B., Ch.B., D.P.H.
R. J. Batty, B.Sc., M.B., Ch.B., D.P.H.
A. C. Crawford, M.B., Ch.B., D.P.H., D.T.M.
Catherine L. Corbett, M.B., Ch.B., D.P.H.
H. L. Cronk, M.A., M.D., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
R. M. Galloway, M.D., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
Winniefred M. Gray, M.A., M.B., Ch.B., D.P.H.
F. Hall, M.D., Ch.B., D.P.H., B.L.
H. Holroyd, M.B., B.S., D.P.H.
Gladys H. Hutchinson, M.B., Ch.B.
J. R. Jagger, M.B., Ch.B., D.P.H
G. G. Johnstone, *M.C.*, M.A., M.D., Ch.B., D.P.H.
J. H. Porter, M.A., M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
E. H. Scholefield, M.A., M.B., Ch.B., M.R.C.S., L.R.C.P., D.P.H.
J. A. Tomb, M.B., Ch.B., D.P.H.
A. Topping, M.A., M.D., Ch.B., D.P.H.
G. G. Wray, M.D., Ch.B., D.P.H.
S. N. Wright, M.Sc., M.B., Ch.B., D.P.H.

Dental Surgeons:

R. E. Hodgson, L.D.S.
H. B. Ivers, *M.C.*, L.D.S.
J. Kershaw, L.M.S.S.A., L.D.S.
W. A. Linnell, L.D.S.
T. G. Lloyd, L.D.S.
I. F. McAsh, L.R.C.P., L.R.C.S., L.D.S.
G. G. Macphee, M.A., M.B., Ch.B., L.D.S.
F. D. Manners, L.D.S.
E. V. Pollitt, L.D.S.
T. H. Wignall, L.D.S.
A. Cleaver, L.D.S. (part-time)

Ophthalmic Surgeons (part-time):

E. Allan, M.B., Ch.B.
H. H. Bywater, M.D., Ch.B., D. Ch.O., F.R.C.S.
G. A. Jelly, F.R.C.S., L.R.C.P., L.S.A., D.P.H.
N. MacInnes, M.A., M.B., Ch.B.
H. G. Parker, F.R.C.S., L.R.C.P., L.R.F.P.S.
J. F. Penman, M.B., Ch.B.
F. C. Plummer, M.D., Ch.B.
G. A. Renwick, M.B., Ch.M.
W. Sykes, L.R.C.P., L.R.C.S., L.R.F.P.S.
J. M. Wishart, M.B., Ch.B., F.R.C.S.

Honorary Consulting Orthopœdic Surgeon:

Sir Robert Jones, Bart., K.B.E., C.B., F.R.C.S., L.L.D., D.Sc.

Orthopædic Surgeons (part-time):

H. Platt, M.D., M.S., F.R.C.S.
T. P. McMurray, M.Ch., F.R.C.S.

Junior Orthopædic Surgeons (part time).

E. S. Brentnall, M.B., F.R.C.S.
B. L. McFarland, M.D., M.Ch., F.R.C.S.
S. M. Milner, M.A., M.B., F.R.C.S.
H. Poston, M.B., M.Ch.

School Nurses and Health Visitors:

Mrs. Ashton
Miss S. Beach
Mrs. M. R. Beckett
Mrs. A. Birchall
Miss N. C. Buchan
(Resigned February, 1928)
Miss A. Canton
Mrs. E. Chambers
Miss G. Coward
(Resigned May, 1928)
Miss E. Cubbin
Mrs. H. M. Dewhurst
Miss H. Dickinson
Miss M. G. Dickinson
Miss M. Dudley
Miss P. E. Dunn
Miss M. E. Evans
Miss M. Fawcett
Miss A. E. Fry
Mrs. S. Gray
Miss L. M. Hartley
Miss F. M. Heseltine
Mrs. M. A. Hilton
Miss S. N. Hodgson
Mrs. M. C. Hoey
Miss A. Holmes
Miss G. M. Hughes
Mrs. W. Hutchinson
Miss A. D. Irving
Miss M. Kennedy
Miss A. Kirkham
Miss E. Knowles
Miss M. Lamb
Miss E. M. Lawley
Miss C. E. Laycock
Miss A. Lynch
Miss M. MacDonald
Miss E. Mares
Miss M. R. McLean
Miss G. Menzies
Miss I. Milne
Miss A. I. Murphy
Mrs. B. Palin
Miss D. H. Procter
Mrs. L. Read
Miss A. Reeves
Miss M. Robinson
Miss D. Rigby
Miss E. Shaw
Miss G. Sizer
Miss M. Singleton
Miss A. Smith
Mrs. G. Smith
Mrs. E. C. Stringer
Miss J. Tomkinson
Miss A. Townend
Mrs. F. M. Tregarthen
Miss F. M. Unsworth
Miss E. A. Walker
Miss I. Valentine
Miss A. Walters
Miss G. J. Wellard
Miss M. C. Williams
(Resigned March, 1928)
Miss S. E. Wright

Orthopædic Nurses:

Miss F. Cornes
Miss E. H. Elkington
Miss E. J. Hinkley

BIDDULPH GRANGE ORTHOPÆDIC HOSPITAL.

Senior House Surgeon:

Margaret H. Greg, M.R.C.S., L.R.C.P.

Matron:

Miss M. Rochell

LANCASHIRE
COUNTY COUNCIL.

LANCASHIRE EDUCATION COMMITTEE.

SCHOOL MEDICAL SUB-COMMITTEE.

NINETEENTH
ANNUAL REPORT
OF THE
COUNTY MEDICAL OFFICER OF HEALTH
AND
SCHOOL MEDICAL OFFICER,
For the Year ended 31st December, 1927.

The following Report on the work of the School Medical Service follows in its arrangement the lines laid down by the Board of Education.

ADMINISTRATION.

The area of the Administrative County of Lancaster for Elementary Education purposes is 948,269 acres, and the population is 964,100, of whom the average number on the Roll of Elementary Schools is 133,968, and the average number in attendance is 116,457 ; the average attendance in the previous year was 117,659.

For Higher Education and General Purposes the population is 1,801,500, while for Child Welfare purposes it is 719,788.

The rural part of the County is mainly north of the River Ribble and to the west of a line drawn roughly from Preston to Liverpool, whilst the urban districts cluster most thickly in the southern and eastern portions of the County.

The following districts are autonomous for Elementary Education purposes and, therefore, do not come within the scope of this Report except for Higher Education :—

19 Municipal Boroughs ;

the Urban Districts of Chadderton, Farnworth, Hindley, Ince-in-Makerfield, Radcliffe, Stretford, Swinton and Pendlebury, and Waterloo-with-Seaforth.

The combined population of these Boroughs and Urban Districts is estimated to be 837,400.

Of the 683 schools for which the Lancashire Education Committee is responsible, about two-thirds are distant from the nearest railway station one to nine miles.

During the year Dr. Elizabeth H. Brook retired on pension, and her place and two outstanding vacancies were filled by the appointment of Dr. A. C. Crawford, Dr. R. M. Galloway, and Dr. J. H. Porter.

Various changes have taken place in the nursing staff ; Miss Rochell resigned on being appointed Matron of the Committee's new Orthopædic Hospital at Biddulph, and her place was filled by the appointment of Miss E. Cubbin : Miss M. Lamb, Miss I. Milne, and Miss M. Singleton have been appointed to fill new places on the staff. The Urban Districts of Abram, Crompton, and Padiham, which were previously autonomous for Maternity and Child Welfare work, have now joined the County Council's scheme, and their Health Visitors, Miss F. M. Unsworth, Miss M. McDonald, and Mrs. L. Read have been absorbed into the County staff.

The extension of the Committee's Orthopædic Scheme has necessitated the appointment of an additional Orthopædic Nurse, Miss E. J. Hinkley, and of two additional part-time Junior Orthopædic Surgeons, Mr. S. M. Milner and Mr. H. Poston.

The Dental staff has been enlarged by the appointment of Mr. R. E. Hodgson, Mr. T. H. Wignall, and Mr. R. D. Manners.

Several small outbreaks of smallpox again interrupted considerably the work of Medical Inspection.

CO-ORDINATION OF THE WORK OF THE SCHOOL MEDICAL SERVICE WITH THAT OF OTHER HEALTH SERVICES.

The arrangements for co-ordination have been fully described in previous Annual Reports. The Assistant School Medical Officers are Assistant Medical Officers of Health for the County, and are in touch with the Medical Officers of Health of the local Sanitary Authorities in their respective districts. The School Nurses are also Health Visitors. The following table shows the work done by the Nurses as Health Visitors during the year 1927 :—

HOME VISITS—	
(Infants under one year)—	
No. of 1st Visits	9,988
No. of Re-visits	39,097
(Children 1—5 years of age)—	
No. of Visits	31,644
ANTE-NATAL WORK—	
(Expectant Mothers)—	
No. of 1st Visits	2,199
No. of Re-visits	1,633
OTHER VISITS—	
Special Visits to Older Children, Medical Officers of Health, &c.	1,228
VISITS TO CASES OF OPHTHALMIA NEONATORUM AND OTHER MATTERS.	287

During the year four new Child Welfare Centres were opened or taken over from Local Authorities which had joined the County Council's Scheme for Maternity and Child Welfare, and the list of those which have now been established is as follows :—

Abram
Adlington
Aspull
Audenshaw
Barrowford
Bamber Bridge
Billinge
Blackrod
Briercliffe
Bromley Cross
Burtonwood
Church
Clayton-le-Moors
Clifton
Coppull
Crompton
Dalton-in-Furness
Davyhulme
Droylsden
Feniscowles
Fleetwood (2)
Flixton
Haydock
Irlam (2)
Kearsley
Kirkham
Leyland (2)
Little Lever
Littleborough
Longridge
Litherland
Milnrow
Morecambe
Norden
Ormskirk
Oswaldtwistle (2)
Padiham
Poulton-le-Fylde
Prescot
Rishton
Skelmersdale
Standish
Thornton
Tottington
Ulverston
Urmston
Walkden
Waterloo
Whitefield
Whitworth

Some of these Child Welfare Centres have been taken over from Local Sanitary Authorities which had previously established them, and in a few of these cases the visiting Medical Officer is the local Medical Officer of Health. In all cases, however, the Health Visitor and Superintendent Nurse of the Welfare Centre has become a School Nurse for her district in the County.

Voluntary Helpers, as in the past, continue to do good work at these Centres. Instruction in Mothercraft is given to older girls from Elementary Schools in the districts of Leyland, Longridge, Urmston, and other districts, on a definite plan arranged between the Elementary Education Department and the Medical Department. The instruction is systematic and is a very valuable training for older girls in some of their future responsibilities.

The following table gives a statistical summary of the work done in the Centres during the past year :—

SUMMARY OF ATTENDANCES, &C., AT CHILD WELFARE CENTRES DURING THE TWELVE MONTHS ENDED 31ST DECEMBER, 1927, TOGETHER WITH THE NUMBER OF BIRTHS NOTIFIED DURING THAT PERIOD.

Name of Child Welfare Centre.	No. of Times Open.	No. of Births Notified during the 12 months.	No. of individual children attending.			No. of attendances by children.			No. of attendances by expectant mothers.		No. of attendances by other women.	
			Under 1 year old.	From 1—2 years old	Over 2 years old.	Under 1 year old.	From 1—2 years old	Over 2 years old.	No. of individual expectant mothers attending.	No. of actual attendances.	No. of individual women attending.	No. of actual attendances.
(*a*) Abram	19	77	85	43	32	437	195	99	12	28	25	75
Adlington	47	48	65	45	72	874	697	928	45	138	50	253
Aspull	48	141	161	70	21	1504	483	74	32	89	38	48
Audenshaw	48	116	138	85	51	1691	669	250	14	77	14	239
Bamber Bridge	48	61	118	72	109	745	522	678	29	144	91	298
Barrowford	48	67	88	48	55	578	204	174	6	9	11	12
Billinge	46	68	59	31	26	532	320	127	16	59	1	2
Blackrod	48	54	65	30	21	732	183	43	4	7	37	51
Briercliffe	23	21	39	22	31	276	113	145	1	2	7	12
Bromley Cross	47	24	101	53	94	752	155	331	22	56	39	276
Burtonwood	48	44	52	22	22	432	182	174	8	32	12	48
Church	48	62	125	63	67	1074	425	488	8	27	21	179
Clayton-le-Moors	47	108	77	41	26	547	287	220	14	64	17	188
Clifton	45	36	46	26	24	503	372	270	1	28	4	147
Coppull	47	96	78	63	39	680	742	443	18	92	13	447
(*a*) Crompton	40	138	149	49	30	1309	344	144	3	15	1	6
Dalton-in-Furness	49	177	177	143	132	1546	1488	1208	75	352	...	...
(*b*) Davyhulme	43	32	28	20	20	307	207	316	7	65	5	200
Droylsden	48	179	274	144	75	3249	968	384	10	38	22	294
Feniscowles	48	9	22	22	27	162	198	208	2	13	14	67
Fleetwood (No. 1)	46	453	113	78	76	989	472	382	8	34	12	68
Fleetwood (No 2)	46		270	95	82	1756	430	397	21	51	3	4
(*c*) Flixton	44	86	115	45	58	1336	391	391	15	74	20	255
Haydock	48	220	167	89	31	1187	686	220	26	85	2	6
Irlam (Prim. Meth.)	26	197	98	23	8	1133	393	81	2	12	38	201
Irlam (Longfield)	26		119	33	16	1787	454	141	9	46	58	435
Kearsley	49	126	167	83	73	1830	653	303	8	71	21	114
Kirkham	47	74	129	62	42	1178	411	286	6	42	12	90
Leyland (Brad St.)	25	114	13	14	24	126	131	161	3	28	9	162
Leyland (Quin St.)	44		97	56	60	898	345	667	7	48	12	210
Litherland	48	220	207	72	162	1684	513	774	34	145	20	122
Littleborough	54	147	213	77	119	1622	465	508	11	42	6	11
Little Lever	49	61	78	28	30	813	157	120	16	47	54	144
Longridge	24	48	71	55	50	397	198	178	8	41	12	66
Milnrow	49	97	116	27	38	1278	158	115	4	18	2	13
Morecambe	47	167	206	74	122	1578	510	511	14	74	...	...
(*d*) Norden	23	20	40	23	35	304	145	127	5	13	1	1
Ormskirk	48	134	99	41	72	1348	510	683	21	120	15	106
(*e*) Padiham	12	44	39	19	24	131	61	88	6	12	1	1
Poulton-le-Fylde	24	44	34	17	14	179	77	30	1	3	5	34
Prescot	73	177	285	144	114	1836	636	674	60	259	9	46
(*f*) Rishton	27	54	64	28	20	415	70	48	2	2	22	93
Skelmersdale	48	109	98	61	77	1053	625	912	20	99	30	281
Standish	48	110	106	84	106	807	709	776	23	83	96	261
Thornton	48	132	71	50	63	501	339	464	9	42	29	81
Tottington	47	79	80	31	56	692	244	220	13	56	10	41
Ulverston	48	152	149	101	135	1650	1268	1492	49	316	...	...
Urmston	48	64	51	33	25	360	173	138	7	37	14	16
Walkden	49	101	121	67	31	940	322	66	3	3	42	126
Waterloo	26	44	70	23	14	583	185	49	8	15	4	8
Whitefield	45	69	144	62	41	1052	443	163	5	7	3	5
Whitworth (Facit)	49	109	98	50	50	775	278	168	13	38	...	...

(*a*) Included in County Scheme for Maternity and Child Welfare Work as from 1st April, 1927.
(*b*) Davyhulme Child Welfare Centre closed during August.
(*c*) Flixton Child Welfare Centre closed during August.
(*d*) Norden Child Welfare Centre opened 20th July, 1927.
(*e*) Included in the County Scheme for Maternity and Child Welfare Work as from 1st October, 1927.
(*f*) Rishton Child Welfare Centre opened 13th June, 1927.

The supply of dried milks or milk powders at the Centres is continued on the same terms as described in the Annual Report for 1925, and there is also an extensive scheme for the provision of fresh milk to expectant or nursing mothers and to young children. Every medical man agrees that the best food for the baby is the natural supply, and it is regrettable that some mothers only begin their attendances at the Centres when the natural supply has failed and artificial feeding has begun.

On this account there is a natural tendency on the part of mothers and others to look upon Child Welfare Centres as shops for the supply of dried milk and patent foods. This tendency requires constant correction ; the real function of these centres is not that of a cheap shop or of a substitute for the Relieving Officer. Nor are they places where the diagnosis and treatment of the ailing baby is the chief aim. They are Centres for the inspection of babies and for the guidance of mothers in the normal rearing and upbringing of their children, where any departure from the normal can be observed and advice given, but no treatment undertaken. In a word, their proper aim is education.

During the year 1927, 82,117 lbs. of dried milks and of Virol and Cod Liver Oil and Malt were supplied at the Centres, while 541,264 pints of fresh milk were supplied directly to the recipients by milk purveyors.

Ante-natal Clinics are in operation at Irlam and Litherland, and arrangements have also been made with the Borough of Widnes for the attendance at their Clinic of expectant mothers from the adjacent County area. These have been established with the primary object of reducing maternal mortality and morbidity, which are still excessive.

During the year expectant mothers were seen by the doctors or nurses at either Ante-natal Clinics or Child Welfare Centres on 3,489 occasions.

All cases of Ophthalmia Neonatorum, a virulent inflammation of the eyes in the newly-born, are investigated immediately. It is a standing instruction to the nurses that, if necessary, all other work must be put on one side in order that efficient treatment may be given to these cases, so that the terrible consequence of blindness may be avoided.

In the Public Health (Ophthalmia Neonatorum) Regulations, 1926, which came into operation on October 1st, 1926, the duty of notifying cases is placed on the Medical Practitioners. Under the rules of the Central Midwives Board it is still the duty of the Midwife to call in a Medical Practitioner in all cases of inflammation of the eyes, however slight, and to send notice thereof to the Local Supervising Authority, which is, in this case, the Midwives Act Committee of the County Council.

The Assistant School Medical Officers, in their capacity as Assistant Medical Officers of Health, have undertaken the inspection of Maternity Homes in their respective districts. During the year 77 Maternity Homes were inspected by them and the results reported to the Public Health Department of the County Council.

OPHTHALMIA NEONATORUM.

Information regarding condition of Eyes, obtained by re-visits, after a lapse of from 2 months to 3 years from date of first report.

	YEAR 1924.		YEAR 1925.		YEAR 1926.		YEAR 1927.	
	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.	*All "Eye Cases."	Notified as Oph. Neon.
Total number of "Eye Cases" reported to the Local Supervising Authority under the Midwives Acts	328	...	299	...	344	...	381	...
Total number of cases notified as Ophthalmia Neonatorum ...	...	154	...	147	...	172	...	211
Information regarding condition of eyes after a lapse of from 2 months to 3 years from date of first report :—					†	†	†	†
Totally Blind	1	1	...	...	...	...	...	...
One Eye Blind	...	...	...	...	...	...	...	...
R. Blind—L. Keratitis	...	...	...	...	...	...	...	...
R. Blind—L. Nebula	...	...	...	...	...	...	...	...
L. Blind—R. Nebula	...	...	...	...	...	...	...	...
R. Blind—L. Weak	2	2	...	...	...	...	...	...
L. Blind—R. Weak	...	...	...	...	...	...	...	...
R. Blind—L. Normal	2	2	1	1	...	...	...	...
L. Blind—R. Normal	1	1	3	3	...	...	...	...
Nebula (both eyes)	...	...	...	...	...	...	...	...
R. Nebula—L. Normal	1	1	...	...	...	...	...	...
L. Nebula—R. Normal	...	...	...	...	...	...	...	...
L. Large Opacity—R. Normal ...	1	1	...	...	...	...	...	...
Squint (both Eyes)	...	...	...	...	...	...	...	...
R. Squint—L. Normal	...	...	...	...	...	...	...	...
R. Squint—L. Nebula	...	...	...	...	...	...	...	...
L. Squint—R. Normal	...	...	2	1	...	...	...	...
R. Weak—L. Normal	...	...	1	1	...	...	...	...
L. Weak—R. Normal	4	1	...	...	...	...	...	...
L. Normal—R. Cataract	...	...	1	1	...	...	...	...
Both Eyes Weak	1	...	5	4	...	...	...	...
Adherent Iris	...	...	...	...	...	...	...	...
Occasional Conjunctivitis ...	...	...	2	2	...	...	...	...
Marked Internal Squint	...	...	...	...	...	...	...	...
Slight Opacity (One Eye) ...	...	...	...	...	...	...	...	...
Left Eye Defective	...	...	...	...	...	...	...	...
Myosis	...	...	...	...	...	...	...	...
Vision Unsatisfactory	...	...	...	...	...	...	...	...
Eyes Discharging	1	1	...	...	...	...	...	...
Eyelids Inflamed	...	...	...	...	...	...	...	...
R. Squint—Eyes discharging ...	...	...	...	...	...	...	...	...
R. Blind—L. Myopia	...	...	...	...	...	...	...	...
Corneal Opacity (both eyes) ...	...	...	...	...	...	...	...	...
L. Blind—R. Defective	...	...	...	...	...	...	...	...
L. Blepharitis—R. Normal ...	1	...	...	...	...	...	...	...
L. Ptosis—R. Normal	...	...	...	...	...	...	...	...
Blepharitis (both eyes)	...	...	1	1	...	...	...	...
R. Defective	...	...	...	...	...	...	...	...
Eyes Normal	234	107	229	97	...	...	...	...
Absence of Eyeballs	1	...	...	...	...	...	...	...
Children Deceased	39	19	32	21	...	...	...	...
Left District, No Information, or still under treatment ...	39	18	22	15	...	...	...	...
	328	154	299	147	344	172	381	210

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* Includes all cases in which Certified Midwives called in Medical Practitioners on account of inflammation of, or discharge from, the eyes.

† The results obtained during the years 1926-27 are not available at time of going to print.

For the actual confinement of women the Maternity and Child Welfare Sub-Committee and the Midwives Act Committee have shouldered a considerable amount of responsibility. In all labours which are not following a normal course it is the duty of a Midwife to advise the summoning of a doctor, and where the doctor has been summoned by the Midwife the Midwives Act Committee will pay the doctor's fees when the patient or her husband is unable to do so. Several Nursing Associations which provide Maternity Nurses are subsidised in proportion to the number of cases which they attend annually. The Maternity and Child Welfare Sub-Committee has made arrangements with sixteen Maternity Hospitals or Homes throughout the County whereby parturient women are admitted on such terms as they can afford, the County Council paying the balance of the fee. To these Maternity Hospitals or Homes two types of cases are admitted, those in which there is any reason to anticipate an abnormal or dangerous labour, and those whose home surroundings are not such as will allow the labour to be conducted with decency or with safety to the mother. In each case a strict investigation is made into the financial circumstances before authority is granted to enter the Hospital or Home.

In addition to the above, arrangements have been made for the admission of ante-natal cases to institutions at Blackburn, Burnley and Liverpool.

The following table shows the reduction in infantile mortality, per thousand births, which has taken place in recent years in the Administrative County :—

1913	...	124	1921	...	88
1914	...	112	1922	...	85
1915	...	119	1923	...	80
1916	...	99	1924	...	81
1917	...	96	1925	...	82
1918	...	100	1926	...	80
1919	...	93	1927	...	73
1920	...	91			

THE CARE OF DEBILITATED CHILDREN UNDER SCHOOL AGE.

There is no routine inspection of these children, but they are frequently brought for consultation to Child Welfare Centres, School Clinics, and to the ordinary routine inspection at schools. In addition, these children come under the observation of the School Nurse in the course of home visits. In the Urban Areas a fairly considerable number of children attend school from the age of 3 years onwards.

During 1927 the Nurses, as School Nurses, visited 15,249 separate homes, and as Health Visitors made 84,848 visits to homes. While the specific object of each one of these home visits may have been to see a particular child, either as school child or as a baby, all the children at home would normally be seen, especially if they were causing any anxiety to their parents or presenting obvious signs of disease. During the year 2,842 children between two and five years of age made 18,037 attendances at the Child Welfare Centres.

Children under the age of three years can be provided under the County Council's Maternity and Child Welfare Scheme with fresh milk or with dried milk, Virol, and cod liver oil and malt, at cost price, less than cost price, or free, when they are medically certified to require the extra nourishment, and, in fact, during the last financial year a sum of about £8,000 was so spent on these children.

In districts where the County Council is the Authority which is responsible for Maternity and Child Welfare, all the facilities provided for the care and treatment of school children are available for children who are not yet of school age. It is the practice of the School Medical Sub-Committee of the Education Committee and of the Maternity and Child Welfare Sub-Committee of the Public Health Committee to make identical arrangements for the treatment of the children for whose care they are respectively responsible, financial adjustments between the two Committees being made according to very simple regulations. For example, the scheme for dealing with Cripples is a joint scheme of the School Medical Sub-Committee and of the Maternity and Child Welfare Sub-Committee, and treatment is available for the child, whatever its age. Where dental facilities have been provided they are available for expectant and nursing mothers and for children under school age.

PLAYGROUNDS.

The situation in regard to many Voluntary Schools is unsatisfactory. Complaints made by the School Medical Officers about the condition of playgrounds are not remedied owing to the cost entailed. During the year negotiations for purchases of land for playing fields at Dalton-in-Furness, Failsworth, Crooke and Great Sankey have been entered into. In the new schools projected the policy of the Committee is as follows :—

Size of Sites for Schools.

The areas given below are considered as the minimum requirements for sites for new Elementary Schools. It is assumed that the shape and situation of the site provide facilities for economical planning of the building, playgrounds and playing-fields.

The schools are grouped in three divisions according to the number of children accommodated :—

(I.) If provision is made for 200 children—

Area required : Minimum area for building and playground (as required by Board of Education) ...	¼-acre
Add : School Garden and Infants' Plot	1000 sq. yards
Special Subjects Rooms	200 ,,
Playing-field	2 acres
Total	2½ acres

A playing-field of this size would give room for one football or hockey ground, and for minor games such as rounders or net-ball.

(II.) If provision is made for 400 children—

Minimum area required : 3½ acres.

This will give a larger area for the building, playground, school garden, and Special Subjects Centre, with one football or hockey ground, a cricket pitch, and space for minor games.

(III.) If provision is made for 600 children—

Minimum area required : 4½ acres.

This allows for separate football and hockey grounds, in addition to the facilities given above.

Addition for a Group of Schools.

If a playing-field is to be used for Organised Games by a number of schools in addition to the school to which it is attached, about three acres additional to the figures given above would be needed.

Central Schools.

As all the pupils will be eleven years of age or over the minimum area of a site for this purpose should be five acres.

SCHOOL HYGIENE.

The following list shows some of the minor improvements in school premises which have been carried out during the year :—

District No.	Name of School.	Particulars of Improvements.
1	Grange-over-Sands C.E.	Installation of low-pressure heating apparatus.
1	Lower Allithwaite, Cartmel C.E.	Do. do.
1	Dalton-in-Furness, Ireleth C.E. ...	Reflooring.
1	Ulverston St. Mary's R.C. ...	Renewal of stone steps.
1	Coniston C.E.	Reflooring.
1	Dalton-in-Furness, Lindal and Marton Council	Additional w.c.
1	Kirkby Ireleth, Grizebeck Council	Improved water supply.
2	Wray-with-Botton Endowed ...	Improved ventilation.
2	Caton C.E.	Reflooring.
2	Thurnham R.C.	Removal of gallery and reflooring.
2	Heysham Sandylands Council ...	Removal of gallery.

District No.	Name of School.	Particulars of Improvements.
3	Kirkland, Garstang, Churchtown Parochial	Installation of low-pressure heating apparatus and new cloakroom
3	Out Rawcliffe C.E.	Provision of new cloakroom.
4	Poulton-le-Fylde C.E.	Reflooring.
4	Poulton-le-Fylde R.C.	Reflooring.
4	Hardhorn-with-Newton C.E. ...	Reflooring.
4	Thornton Cleveleys Beach Road Council ...	Improvements to footpath and playground.
5	Marton, Little Marton C.E. ...	Reflooring.
5	Westby Ballam	Reflooring.
5	Warton Endowed	Reflooring.
5	Medlar-with-Wesham, Wesham C.E. ...	Erection of partition.
6	Woodplumpton C.E.	Reflooring.
6	Longridge Girls' and Infants' C.E.	Alterations and improvements to latrines.
6	Longridge R. Smith's Boys' C.E.	Improved lighting, and alterations and improvements to latrines.
7	Walton-le-Dale, Bamber Bridge Wesleyan ...	Reflooring.
7	Walton-le-Dale, Higher Walton C.E. ...	Reflooring.
7	Longton, New Longton C.E. ...	Installation of electric light.
7	Tarleton, Mere Brow C.E. ...	Reflooring.
9	Great Harwood Parish C.E. ...	Installation of electric light.
9	Clayton-le-Moors St. Mary's R.C.	Reflooring.
9	Rishton St. Peter's and St. Paul's C.E.	Reflooring and installation of electric light.
9	Oswaldtwistle United Methodist Free Church ...	Reflooring.
10	Mellor Brook C.E.	Removal of Gallery.
12	Barrowford Council	Improvement to Infants' playground surface.
13	Altham C.E.	Reflooring.
13	Sabden Council (M.)	Installation of electric light.
14	Coppull St. Oswald's R.C. ...	Reflooring.
15	Brindle Parochial	Reflooring.
15	Brindle St. Joseph's R.C. ...	Removal of gallery.
16	Skelmersdale Endowed	Reflooring.
16	Bispham (Ormskirk) Free Grammar ...	New offices, and extension of playgrounds.
16	Scarisbrick St. Mary's R.C. ...	Improved ventilation in Mixed Section.
16	Lathom and Burscough, Burscough Bridge Wesleyan ...	Improved ventilation.
16	Ormskirk St. Anne's R.C. ...	Removal of gallery in Mixed Department.
16	Lydiate C.E.	Improved ventilation.
16	Lydiate C.E. (Infants)	Reflooring.
16	Scarisbrick St. Mark's	Reflooring.
16	Scarisbrick Township	Reflooring.
18	Standish-with-Langtree St. Marie's R.C. ...	Reflooring.

District No.	Name of School.	Particulars of Improvements.
18	Standish-with-Langtree, Standish Girls' and Infants	Reflooring.
18	Standish-with-Langtree, Standish Grammar Boys'	Reflooring.
18	Aspull R.C.	Reflooring.
19	Orrell R.C.	Reflooring.
19	Billinge C.E.	Reflooring.
19	Ashton-in-Makerfield Rectory C.E.	Reflooring.
19	Orrell, Lamberhead Green C.	Installation of electric light.
20	Turton, Bradshaw C.E.	Reflooring.
21	Horwich Lee Lane Council	Reflooring.
21	Horwich Old Horwich Boys'	Reflooring.
21	Horwich St. Catherine's C.E.	Reflooring.
21	Horwich Chorley New Road C.	Removal of gallery.
22	Kearsley Mount Wesleyan	Installation of electric light.
22	Little Hulton Primitive Methodist	Installation of electric light.
22	Little Hulton St. John the Baptist's	Installation of electric light.
22	Little Lever C.E.	Reflooring.
23	Ramsbottom Summerseat Wesleyan	Installation of electric light.
25	Prestwich Parish C.E.	Installation of electric light.
25	Prestwich St. Hilda's C.E.	Re-building of offices.
25	Outwood and Kearsley Council	Installation of electric light.
26	Littleborough, Calderbrook St. James' C.E.	Reflooring.
26	Littleborough C.E.	Reflooring.
26	Littleborough R.C.	Installation of electric light.
26	Wardle C.E.	Reflooring.
26	Whitworth, Shawforth C.E.	Installation of electric light.
26	Norden, Bagslate Wesleyan	Reflooring.
26	Norden C.E.	Reflooring.
26	Milnrow Moorhouse Council	Installation of electric light.
26	Whitworth, Leavengreave C.	Installation of electric light.
26	Whitworth St. Anselm's R.C.	New cloakroom for Infants' Class.
27	Crompton, East Crompton C.E.	Reflooring.
27	Crompton, High Crompton C.E.	Installation of electric light.
28	Great Crosby C.E. (Boys)	Installation of electric light.
28	Litherland Lander Road Council	Shed erected for ash bins.
29	Huyton Park Council	Reflooring.
29	Huyton and Roby St. Agnes' R.C.	Installation of electric light.
29	Eccleston (Prescot) Council	Installation of electric light.
30	Haydock C.E.	Reflooring.
30	Newton-in-Makerfield, Newton-le-Willows St. Mary's R.C.	Installation of electric light.
30	Winwick C.E.	Installation of electric light.
30	Burtonwood Council (Infants)	Removal of gallery.
31	Tyldesley-cum-Shakerley, Mosley Common C.E.	Installation of electric light.
31	Tyldesley-cum-Shakerley, Tyldesley C.E.	Installation of electric light.

District No.	Name of School.	Particulars of Improvements.
31	Atherton Bag Lane C.E.	Installation of electric light.
31	Atherton Bolton Road C.E. ...	Installation of electric light.
31	Atherton, Hindsford C.E. ...	Installation of electric light and reflooring infants' large room.
31	Astley C.E. (M.)	Installation of electric light.
32	Golborne Parochial	Improvement of ventilation in Mixed Department.
33	Irlam Endowed C.E.	Installation of low-pressure heating apparatus and new heating chamber.
34	Worsley, Walkden C.E.	Reflooring.
34	Worsley C.E.	Reflooring.
34	Worsley C.E. (Infants)	Installation of low-pressure heating apparatus.
35	Audenshaw Wesleyan	Removal of gallery.
35	Lees, Leesfield C.E.	Removal of gallery, and reflooring.
35	Failsworth C.E.	Reflooring.
35	Alt, Leesfield Knoll's Lane C.E. ...	Partial reflooring.
35	Droylsden Manchester Road C. ...	Installation of electric light.
35	Droylsden Moorside Council ...	Installation of electric light.
35	Audenshaw Council	Installation of electric light.
35	Droylsden Fairfield Road Council	Installation of electric light.
35	Denton Central Council	Installation of electric light.

CLOAK-ROOM ACCOMMODATION.

The cloakrooms in some of the older schools are dirty, ill-ventilated, cold, and over-crowded. In the newer schools ample provision is made for separate hanging up of hats and coats and for drying wet garments.

VENTILATION.

Minor defects are remedied as occasion requires. The old ideas of air inlets and outlets have been shown on many occasions to be wrong both in theory and practice. The wind is the great provider of ventilation, and openings in the school walls act as inlets or outlets according to the direction of the wind. The air is so rarely still in this country that full use should be made of the efforts of the wind to renew the vitiated air of the school-rooms. It would be a comparatively easy matter in suitable schools to arrange on both sides of the room windows which could be widely opened as occasion required, thus providing for normal children the advantages of Open Air Schools which have hitherto been provided in other districts for delicate children.

Most important of all, however, is it that the teachers should make full use of whatever ventilating arrangements are provided, however inadequate theoretically they may be.

LAVATORY ACCOMMODATION.

Foot baths have been installed at Worsley Technical School during the year. Further progress is needed in the provision of adequate facilities for washing, including more soap and more clean towels. Nothing less than the standard of an ordinary clean household should be demanded for an Elementary School. In a large school, with a dirty playground, it is quite useless to expect cleanliness unless time be given, after play-time, for that practical instruction in hygiene which begins by washing the hands.

EQUIPMENT.

Considerable improvement has taken place, especially in Infants Schools, where the furniture is light and easily moved about. Heavy long desks are a drawback both to children and caretakers, but these are gradually being replaced by modern furniture. In new schools cupboards should be built into the walls. At present the tops of cupboards too often are covered with rubbish and dust.

ARRANGEMENTS FOR WARMING FOOD AND SERVICE OF MEALS IN SCHOOLS.

This is usually arranged by the teachers, and special stoves are being supplied, in many cases by the Education Committee. The grants are now being made mainly to the more rural districts. The schools which are being provided for are, roughly speaking, those where 25 to 40 children stay for dinner. In all new schools which are being erected by the Authority, provision is made for the heating of meals and the supply of hot drinks.

MEDICAL INSPECTION.

Arrangements for and Methods of Inspection.

The following Table shows the number of Schools, Departments, &c., on December 31st, 1927 :—

No. of Council Schools	138	
No. of Non-provided Schools	545	
Total number of Schools	——	683
No. of Departments in Council Schools	213	
No. of Departments in Non-provided Schools	719	
Total number of Departments	——	932
Accommodation		195,732
Average number on Roll		133,968
Average Attendance		116,457
No. of Teachers (excluding Pupil Teachers and Student Teachers)		4,181

During the year under review the Administrative County was divided into 17 districts, each of which was in charge of an Assistant County Medical Officer, assisted by two or three Nurses and Health Visitors, who prepare the children for examination, inspect their persons and clothing for uncleanliness and vermin, and follow up the cases recommended for treatment. At the routine inspections, which take place, as a rule, annually, the children examined are those entering school life, those about to leave, and those in the middle of their school career. These are the routine groups. In addition, there are inspected special cases, viz., those in whom some defect is suspected by Medical Officer, Nurse, Teacher, School Attendance Officer, or parent; and the group of re-examinations, viz., those whom the Medical Officer has decided at the previous examination to keep under observation, whether or not they have been recommended for treatment. This latter group is also seen at other visits than the routine visits, as frequently as opportunity permits.

It is manifestly impossible to make an exhaustive examination of a child on the school premises. Children suspected to be suffering from defects unascertainable in a school classroom are referred, where possible, to the School Clinic for further examination. If no Clinic is available, they are referred to their own doctor, with an indication to the latter of the point requiring investigation. Such cases, however, are not numerous, and the usual defects found in children can be diagnosed on the school premises.

The cards, on which defects are recorded, are kept on the school premises in places of security, and not at the Central Offices. The Medical Officers are assisted by women clerks who, when not engaged at School Clinics or Child Welfare Centres or similar work, keep all the records in order and compile summaries for use at the Central Offices. In addition to the work done at the annual routine inspection the Nurses visit the schools four times a year, or as often as possible, for the purpose of examining all the children with regard to cleanliness and for following up cases recommended for treatment.

The following Tables show the work done in the Elementary Schools by the Assistant Medical Officers and Nurses during 1927 :—

ROUTINE MEDICAL INSPECTION OF ELEMENTARY SCHOOLS.

No. of Schools visited			594
No. of Departments visited			782
No. of " Entrants " examined—			
	Boys	7,476	
	Girls	7,298	14,774
No. of " Intermediates " examined—			
	Boys	4,558	
	Girls	4,307	8,865
No. of " Leavers " examined—			
	Boys	5,307	
	Girls	5,242	10,549
No. of " Specials " examined—			
	Boys	6,454	
	Girls	6,586	13,040
No. of Children examined (" Entrants," " Intermediates," " Leavers," and " Specials ")—			
	Boys	23,795	
	Girls	23,433	47,228
No. of Children re-examined...			13,527
No. of Parents interviewed as part of the systematic inspection			4,057
No. of Homes visited			246

The above table refers only to the work done at routine medical inspections.

The following table shows the work done in Elementary Schools by the Medical Officers at visits other than routine visits :—

No. of Schools re-visited	678
No. of re-visits paid to schools	871
No. of children examined at re-visits	13,678
No. of children recommended for specific medical treatment	3,279
No. of parents interviewed at school	917
No. of homes visited	520

The following table shows the work done in Elementary Schools by the Nurses ; it does not include visits or work done when they were accompanying the Medical Officers :—

No. of Schools re-visited	2,667
No. of visits paid to schools	3,889
No. of children examined	191,127
No. of children verminous	7,477
No. of children with ringworm	475
No. of parents interviewed at school	1,659
No. of homes visited	15,249

The Board of Education Schedule has been generally complied with, the increase of staff having made possible a more complete routine examination than has hitherto been performed ; the full result of the increase of staff will not be apparent till next year, when the new staff will have been on duty for the whole period.

The Register of Defective Children—cripples, blind, deaf and dumb, epileptics and mental defectives—has been kept up-to-date, and the Table will be found at the end of this Report.

The Teachers, Heads and Assistants, are extremely helpful in the work of Medical Inspection, and it may now be said that there are few instances in the whole County where the teachers do not take a great interest in the work and render valuable assistance by noting defects and giving what help they can to remedy them. Accommodation, however, is still lacking in many schools, and the curriculum is necessarily interfered with. When teachers have not a room even for themselves, it is difficult to find room for medical inspection without some dislocation of the normal arrangements.

FINDINGS OF MEDICAL INSPECTION.

The following tables show the findings of the routine medical inspection, *i.e.*, the formal and systematic inspection made annually of all the age groups prescribed by the Board of Education. The first table shows in percentages the results of the inspection of these routine groups only:—

				Entrants. (Ages 3, 4, and 5.)		Inter-mediates. (Age 8.)		Leavers. (Ages 12, 13, and 14.)	
				Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
		No. Examined		7476	7298	4558	4307	5307	5242
		Children having Defects		55·0	55·3	59·8	62·4	50·2	56·1
Mental Condition.		Dull and Backward	T	...	...	0·02	...	...	...
			O	0·8	0·4	1·5	0·5	1·4	1·0
		Feeble-minded	T	...	...	...	...	...	...
			O	0·1	0·08	0·1	0·06	0·3	0·09
		Imbeciles	T	...	...	...	...	...	...
			O	0·01	...	...	0·01	0·04	...
		Idiots	T	...	...	...	...	...	...
			O	...	0·05	...	...	...	...
		Malnutrition	T	0·1	0·03	0·3	0·06	0·09	0·06
			O	1·9	1·8	3·1	1·4...	1·7	1·5
Unclean-liness.		Head	T	0·8	3·2	0·8	1·7	0·4	1·7
			O	1·7	9·7	1·7	7·1	1·2	11·8
		Body	T	0·1	0·2	0·1	1·7...	0·2	0·07
			O	0·7	0·7	1·2	0·5	1·2	0·7
Skin.	Ring-worm.	Head	T	0·2	0·2	0·2	0·07	0·02	0·07
			O	0·01	0·07	0·02	...	...	...
		Body	T	0·1	0·08	0·1	0·01	0·05	0·06
			O	...	...	...	...	...	0·02
		Scabies	T	0·05	0·01	0·02	...	0·02	0·04
			O	...	...	...	...	...	...
		Impetigo	T	1·4	0·9	0·7	0·3	0·6	0·1
			O	0·4	0·2	0·3	0·08	0·1	0·1
		Other Diseases	T	0·5...	0·4	0·4	0·2	0·5	0·9
		(Non-Tubercular)	O	0·5	0·4	0·4	0·2	0·6	0·5
Eye Diseases.		Defective Vision	SP	0·6	0·5	6·0	3·6	6·0	7·3
			O	0·7	0·6	6·5	3·7	8·1	8·0
		Squint	T	1·1	1·2	0·5	0·3	0·3	0·3
			O	1·0	1·1	1·0	0·6	1·0	1·0
		Conjunctivitis	T	0·2	0·2	0·3	0·1	0·2	0·2
			O	0·2	0·2	0·1	0·08	0·1	0·1
		Blepharitis	T	0·6	0·7	0·6	0·4	0·5	0·6
			O	0·5	0·4	0·5	0·4	0·4	0·5
		Keratitis	T	...	...	...	0·02	...	...
			O	...	0·01	0·02	...	0·04	0·02
		Corneal Opacities	T	0·01	0·04	0·09	0·04	...	0·04
			O	0·1	0·02	0·04	0·07	0·09	0·2
		Corneal Ulcer	T	...	...	...	...	0·02	0·02
			O	0·01	...	...	...	...	0·02
Ear Diseases.		Defective Hearing	T	0·1	0·2	0·7	0·3	0·6	0·5
			O	0·2	0·3	0·9	0·3	0·6	0·7
		Otitis Media	T	0·5	0·4	0·4	0·2	0·3	0·5
			O	0·1	0·1	0·3	0·08	0·2	0·3
		Other Ear Diseases	T	0·2	0·3	0·4	0·2	0·8	0·5
			O	0·1	0·2	0·06	0·1	0·2	0·1

				Entrants. (Ages 3, 4, and 5.)		Inter-mediates. (Age 8.)		Leavers. (Ages 12, 13, and 14.)	
				Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Nose and Throat.		Enlarged Tonsils	T	1·2	1·3	1·2	0·7	1·1	1·3
			O	9·4	10·1	7·0	4·9	6·3	8·0
		Adenoids	T	0·3	0·2	0·4	0·2	0·1	0·2
			O	1·0	1·0	1·2	0·5	0·8	0·4
		Enlarged Tonsils and Adenoids	T	1·6	1·1	1·1	0·5	0·7	0·9
			O	2·4	2·5	1·5	0·8	1·1	0·9
		Enlarged Cervical Glands (Non-Tubercular)	T	0·07	0·07	0·1	0·05	0·1	0·09
			O	10·8	9·3	11·0	4·9	6·8	4·8
		Defective Speech	T	0·03	...	0·06	...	0·05	...
			O	1·0	0·3	0·6	0·07	0·5	0·2
Teeth.		Four or more Carious	T	10·2	9·2	13·0	6·7	8·5	9·3
			O	12·7	12·7	13·8	7·1	5·3	5·1
		Sepsis	T	0·7	0·7	0·5	0·2	0·2	0·2
			O	0·08	0·05	0·1	...	0·3	0·02
Heart and Circulation.		Organic	T	0·04	0·03	0·04	0·01	0·02	...
			O	0·2	0·3	0·3	0·3	0·9	0·9
		Functional	T	...	...	...	...	0·04	0·04
			O	1·9	1·5	2·0	0·8	1·6	2·1
		Anæmia	T	0·2	0·1	0·2	0·1	0·1	0·2
			O	0·7	0·8	0·5	0·4	0·6	0·6
Lungs.		Bronchitis	T	0·6	0·6	0·5	0·07	0·1	0·2
			O	2·8	1·9	1·2	0·6	0·6	0·5
		Other Non-Tubercular Diseases	T	0·04	0·01	0·06	0·01	0·07	0·06
			O	0·6	0·5	0·7	0·3	0·5	0·5
Tuberculosis.	Pul-monary.	Definite	T	0·01	0·01	...	...	0·02	...
			O	...	...	...	...	...	...
		Suspected	T	...	0·01	...	0·04	...	0·02
			O	0·03	0·04	0·06	0·01	0·1	0·06
	Non-Pulmonary.	Glands	T	0·03	0·01	0·02	0·01	0·04	0·06
			O	0·08	0·08	0·04	0·02	...	0·02
		Spine	T	...	...	...	...	...	...
			O	0·01	...	...	...	0·04	...
		Hip	T	...	0·01	...	...	...	...
			O	...	...	...	...	0·05	...
		Other Bones and Joints	T	...	...	...	...	...	...
			O	...	...	0·06	0·02	...	...
		Skin	T	0·01	...	...	0·01	0·04	0·02
			O	0·01	...	...	0·01	...	...
Nervous System.		Epilepsy	T	...	...	...	...	0·02	0·02
			O	0·05	0·01	...	0·01	0·1	0·04
		Chorea	T	0·01	...	0·04	0·04	...	0·02
			O	0·03	0·01	...	0·04	0·02	0·07
		Infantile Paralysis	T	0·07	0·03	0·04	0·02	0·05	0·04
			O	0·03	0·04	0·09	0·2	0·09	0·1
		Rickets	T	0·2	0·09	0·04	...	0·04	...
			O	1·1	0·7	0·1	0·3	0·2	0·1
Deform-ities.		Spinal Curvature	T	0·03	0·01	0·1	0·04	0·2	0·4
			O	0·2	0·05	0·2	0·05	0·2	0·1
		Other Forms	T	0·4	0·3	0·3	0·1	0·5	0·2
			O	1·4	1·0	0·8	0·4	1·0	1·1
		Other Diseases or Defects	T	0·8	0·6	0·6	0·3	0·9...	1·5
			O	1·2	0·8	1·6	1·1	2·2	4·8

In addition, there are also carefully examined a group of children who are known as "Specials." These children do not fall within one of the prescribed age groups, but are specially presented, as possibly having defects, by teachers, school attendance officers, parents, &c, or are picked out by the medical officer or nurse in a general inspection of the school. The number of "Specials" examined was 13,040.

The following table shows the results of the examination of the "Specials" group in 1927 :—

SPECIAL CASES.

				Boys.	Girls.
		No. Examined		6454	6586
		Children having Defects		3853	4564
Mental Condition.		Dull and Backward	T	...	...
			O	106	57
		Feeble-minded	T	...	...
			O	23	15
		Imbeciles	T	...	1
			O	1	2
		Idiots	T	...	...
			O	...	1
		Malnutrition	T	4	6
			O	275	356
Uncleanliness.		Head	T	58	170
			O	186	1248
		Body	T	12	15
			O	41	39
Skin.	Ringworm.	Head	T	22	17
			O	...	5
		Body	T	8	5
			O	...	2
		Scabies	T	4	4
			O	...	1
		Impetigo	T	67	39
			O	19	17
		Other Diseases (Non-Tubercular)	T	26	39
			O	22	23
Eye Diseases.		Defective Vision	SP	378	473
			O	257	355
		Squint	T	57	49
			O	64	75
		Conjunctivitis	T	26	13
			O	8	9
		Blepharitis	T	29	40
			O	42	46
		Keratitis	T	4	2
			O	...	1
		Corneal Opacities	T	2	2
			O	7	11
		Corneal Ulcer	T	5	4
			O	...	...
Ear Diseases.		Defective Hearing	T	16	24
			O	41	30
		Otitis Media	T	33	34
			O	23	11
		Other Ear Diseases	T	12	13
			O	4	4

				Boys.	Girls.
Nose and Throat.		Enlarged Tonsils	T	81	81
			O	291	385
		Adenoids	T	30	31
			O	61	55
		Enlarged Tonsils and Adenoids	T	117	109
			O	144	143
		Enlarged Cervical Glands (Non-Tubercular)	T	11	10
			O	268	276
		Defective Speech	T	5	...
			O	45	21
Teeth.		Four or more Carious	T	442	494
			O	995	1005
		Sepsis	T	19	24
			O	3	...
Heart and Circulation.		Organic	T	2	...
			O	54	52
		Functional	T	2	1
			O	226	165
		Anæmia	T	11	13
			O	67	72
Lungs.		Bronchitis	T	17	14
			O	62	46
		Other Non-Tubercular Diseases	T	2	2
			O	60	54
Tuberculosis.	Pulmonary.	Definite	T	2	...
			O	...	...
		Suspected	T	1	1
			O	17	10
	Non-Pulmonary.	Glands	T	4	4
			O	7	9
		Spine	T	...	...
			O	1	2
		Hip	T	1	2
			O	2	...
		Other Bones and Joints	T	...	...
			O	1	...
		Skin	T	...	...
			O	...	1
Nervous System.		Epilepsy	T	1	1
			O	3	7
		Chorea	T	1	4
			O	3	10
		Infantile Paralysis	T	2	1
			O	14	6
		Rickets	T	1	2
			O	14	11
Deformities.		Spinal Curvature	T	6	12
			O	8	12
		Other Forms	T	23	27
			O	61	47
		Other Diseases or Defects	T	58	54
			O	113	147

In addition to the children who were examined at routine inspections, and whose defects are classified in the preceding tables, the Medical Officers re-examined 13,527 children who had been found defective at previous inspections. They also paid 871 re-visits to schools and examined 13,678 children ; of these, 3,279 were recommended for specific medical treatment. The classification of these children into age groups or defect categories would serve no useful purpose, and has, therefore, not been made.

REVIEW OF FINDINGS

of Medical Inspection as shown by an Examination of some of the Cases inspected during the year 1927.

	Urban.						Rural.					
	Boys.			Girls.			Boys.			Girls.		
	Entrants	Inter-mediates	Leavers	Entrants	Inter-mediates	Leavers	Entrants	Inter-mediates	Leavers	Entrants	Inter-mediates	Leavers
Unclean Head.												
%	2·28	2·12	1·68	13·18	16·23	13·42	3·6	3·8	1·89	13·51	20·13	15·92
σ ±	0·22	0·26	0·22	0·5	0·7	0·59	0·42	0·57	0·39	0·8	1·26	1·02
Skin Diseases.												
%	3·46	2·36	2·44	2·3	1·86	1·64	2·88	1·41	1·4	1·78	1·28	1·27
σ ±	0·27	0·28	0·26	0·22	0·26	0·22	0·38	0·35	0·33	0·3	0·35	0·31
Squint.												
%	2·21	1·79	1·4	2·34	1·78	1·76	1·75	1·15	1·07	2·05	1·38	1·11
σ ±	0·22	0·24	0·2	0·23	0·25	0·23	0·29	0·31	0·29	0·33	0·36	0·29
Defective Vision												
%	1·29	12·65	15·66	0·98	13·72	16·03	1·39	10·7	10·21	1·68	12·44	13·39
σ ±	0·17	0·61	0·62	0·15	0·66	0·64	0·26	0·91	0·87	0·29	1·03	0·96
Otitis.												
%	0·72	0·64	0·29	0·58	0·51	0·76	0·36	0·88	0·74	0·27	0·59	0·63
σ ±	0·12	0·15	0·09	0·11	0·14	0·15	0·14	0·27	0·24	0·12	0·24	0·22
Tonsils and Adenoids.												
%	15·47	12·21	9·94	15·36	13·86	12·18	18·43	15·12	13·17	19·41	17·77	11·49
σ ±	0·54	0·6	0·51	0·54	0·66	0·57	0·88	1·06	0·97	0·92	1·2	0·89
Heart Disease.												
%	0·24	0·3	0·84	0·38	0·66	0·61	0·36	0·44	1·23	0·16	0·59	1·43
σ ±	0·07	0·1	0·16	0·09	0·15	0·13	0·14	0·19	0·31	0·09	0·24	0·33
Bronchitis.												
%	3·68	1·72	0·93	2·97	1·16	0·91	3·34	1·68	0·41	2·05	1·58	0·4
σ ±	0·28	0·26	0·16	0·25	0·2	0·16	0·4	0·38	0·18	0·33	0·39	0·18
Tuberculosis.												
%	0·22	0·17	0·35	0·07	0·22	0·21	0·15	0·35	0·25	0·49	0·2	0·08
σ ±	0·07	0·07	0·1	0·04	0·09	0·08	0·09	0·17	0·14	0·16	0·14	0·08
Chorea.												
%	0·06	0·07	0·03	...	0·07	0·09	...	...	...	0·05	0·39	0·08
σ ±	0·04	0·05	0·03	...	0·05	0·05	...	...	...	0·05	0·2	0·08
Infantile Paralysis.												
%	0·09	...	0·12	0·09	0·25	0·09	0·05	0·27	0·33	0·05	0·39	0·24
σ ±	0·04	...	0·06	0·04	0·09	0·05	0·05	0·15	0·16	0·05	0·19	0·1
Rickets.												
%	1·16	0·1	0·2	0·76	0·29	0·06	1·65	0·09	0·16	0·92	0·39	0·16
σ ±	0·16	0·06	0·08	0·13	0·1	0·04	0·28	0·08	0·11	0·22	0·2	0·11

The records of 29,910 children, including 12,834 entrants, 7,857 intermediates, and 9,219 leavers were examined for the purposes of comparison by Dr. E. H. Schole-field, Assistant County Medical Officer. They were divided into those attending schools in Urban Areas and those attending schools in Rural Areas. It should be understood, however, that the distribution between " Urban " and " Rural " in a County like Lancashire, is more nominal than real, and perhaps on future occasions some better method of classifying the schools will be discovered.

The points to which special attention was paid were as follows :—Unclean head, Skin Diseases (including Ringworm of the head and body, Scabies, Impetigo, and other non-tuberculous diseases), Squint, Defective Vision, Otitis Media, Tonsils, Adenoids, and Enlarged Tonsils and Adenoids, Organic Heart Disease, Bronchitis, Tuberculosis of all kinds, definite and suspected ; Chorea, Infantile Paralysis, and Rickets.

All cases, whether for Treatment or Observation, were included. These cases were examined and reported upon by seventeen different doctors, and it will, therefore, be readily understood that the personal equation of each doctor is of considerable moment in the estimation of certain defects, such as Uncleanliness of the head, Enlarged Tonsils, Tuberculosis, and even Rickets, of which the minor manifestations would frequently pass unnoticed.

In making comparisions between Urban and Rural children it is not sufficient to find that there is a difference in percentage. Such differences might arise by the operation of chance, or, in other words, through the errors of sampling. A measure of this error is the standard deviation of the percentage, and this standard deviation is calculated from the formula $\sqrt{\frac{pq}{n}}$, where p is the percentage of those having a quality or defect, as the case may be, and q the percentage of those who have not got it, n being the total number examined in that particular group.

A range of twice the standard deviation, in either direction, plus or minus, from the actual percentage found has been taken as indicating the limits inside which it cannot be said with certainty that any significant difference exists.

For instance, 2·28 per cent. of the Urban Entrant Boys are found to have Unclean Heads. The standard deviation is 0·22, and the range is, therefore, from 1·84 to 2·72. For the same defect the percentage of Rural Entrant Boys is 3·6, which is an increase of more than 50 per cent., but the standard deviation in the latter case is ·42, and the range lies between 2·76 and 4·44. The difference, therefore, between the two series is barely significant. Taking the Leaver Boys in the Urban Districts, the percentage is 1·68, and the standard deviation is 0·22, covering a range of from 1·24 to 2·12. The Leaver Boys in the Rural Districts show a percentage of 1·89, with a standard deviation of 0·39 and a range from 1·11 to 2·67. The difference in the percentage shows an increase in the Rural Boys of 12·5 per cent. over the percentage of the Urban Boys, but consideration of the ranges shows that there is no significant difference between the two series.

	NORTH OF RIBBLE.											
	URBAN.						RURAL.					
	Boys.			Girls.			Boys.			Girls.		
	Entrants	Intermediates	Leavers	Entrants	Intermediates	Leavers	Entrants	Intermediates	Leavers	Entrants	Intermediates	Leavers
Unclean Head.												
%	0·72	0·72	...	6·43	5·5	5·18	1·96	1·0	0·46	7·77	12·01	8·72
σ ±	0·32	0·41	...	0·96	1·33	1·15	0·54	0·49	0·32	1·06	1·61	1·35
Defective Vision												
%	...	9·81	9·4	...	9·96	14·44	...	7·77	6·45	...	10·29	10·09
σ ±	...	1·45	1·35	...	1·76	1·83	...	1·79	1·18	...	1·5	1·44
Tonsils and Adenoids.												
%	12·32	11·0	8·54	14·55	11·68	11·17	12·39	10·02	9·68	14·93	10·54	9·17
σ ±	1·25	1·53	1·29	1·38	1·88	1·64	1·28	1·5	1·42	1·4	1·52	1·38
	SOUTH OF RIBBLE.											
Unclean Head.												
%	2·55	2·35	1·95	14·32	17·5	14·5	4·45	5·33	2·69	19·86	25·62	19·73
σ ±	0·25	0·3	0·25	0·57	0·76	0·65	0·58	0·83	0·58	1·25	1·77	1·38
Defective Vision												
%	...	13·11	16·64	...	14·16	16·28	...	12·29	12·29	...	13·88	15·13
σ ±	...	0·67	0·68	...	0·7	0·68	...	1·21	1·17	...	1·4	1·25
Tonsils and Adenoids.												
%	16·03	12·4	10·15	15·5	14·12	12·35	21·56	17·89	15·11	26·11	22·18	12·71
σ ±	0·59	0·65	0·55	0·58	0·7	0·61	1·15	1·42	1·28	1·38	1·7	1·16

UNCLEAN HEADS.

In every category of children, whether boys or girls, entrants, intermediates or leavers, the children south of the Ribble have a significantly larger percentage of unclean heads than their corresponding groups in districts north of the Ribble. In both divisions of the County, namely, north and south of the Ribble, the rural intermediate and leaver girls show a higher percentage of unclean heads than their corresponding urban groups. Amongst the urban girls south of the Ribble the intermediates have a significantly larger percentage of dirty heads than the leavers. This difference exists throughout the County, but is much less noticeable in urban girls north of the Ribble.

Comparing urban and rural children, the only significant difference, north of the Ribble, appears to lie amongst intermediate girls, who are distinctly worse in the rural portions of that division of the County.

South of the Ribble all the rural groups of girls (entrants, intermediates and leavers) show more uncleanliness than their corresponding groups in the urban districts. This difference is possibly due to different standards set up by the Inspectors, but the greater uncleanliness amongst intermediate girls seems to be common to all districts. One is driven to the conclusion, therefore, that these intermediate girls receive less attention at home than the entrants and have not the persistence of their elder sisters.

Skin Diseases.

In urban and rural entrant boys there is barely a significant difference from their respective intermediate and leaver boys. There is practically no difference between intermediate and leaver boys, nor is there any difference between urban and rural boys of the respective ages. Both the urban and rural girls fall into the same category, there being no difference between entrants, intermediates and leavers.

Squint.

Comparing the urban and rural children of the same ages, there is no significant difference in either sex, nor do the figures show any real significance between entrants and leavers.

Defective Vision.

In making comparisons the entrants have been left out (although their figures are recorded) because the same tests are not applicable in their case.

Amongst the boys north of the Ribble the vision is pretty much the same with intermediate and leavers in both urban and rural districts. South of the Ribble, however, the leaver boys of the urban group have a greater percentage of defective sight than those of the intermediate group, but in the rural group there appears to be no difference.

Comparing north with south, the leaver boys north of the Ribble have a smaller percentage of defect than those of the corresponding groups south of the Ribble.

The differences between intermediate and leaver girls are not significant, nor is there any significant difference between the groups north and south of the Ribble.

Comparing urban boys with urban girls and rural boys with rural girls in their respective districts, there is apparently no significant difference.

Otitis Media.

There appears to be no significant difference in the percentages of Otitis in any of the groups, except that in the case of the leaver boys there is a barely significant improvement on the entrant boys in the urban districts. A possible explanation of this equality is that Otitis is a chronic disease, beginning in early life, and very intractable to treatment.

Tonsils and Adenoids.

Tonsils and Adenoids show gradual diminution in percentage from entrants to leavers amongst urban and rural children both north and south of the Ribble. Part of this diminution must be due to operative treatment. The children showing the highest percentages, however, are those, both boys and girls, in the rural districts south of the Ribble, the rest of the County being on a lower level.

In the urban and rural districts north and south of the Ribble there seems to be practically no difference between the sexes.

Organic Heart Disease.

Among the urban boys there is a significant difference between leavers and entrants, and a barely significant difference between leavers and intermediates. There seems to be no significant difference between entrants, intermediates and leavers amongst urban girls.

In the rural boys there is a doubtful significant difference between leavers and entrants. In the rural girls there seems to be a distinct worsening of the heart condition amongst leavers, as compared with entrants. These effects are probably due to the incidence of Rheumatic Fever during school life.

BRONCHITIS.

In both urban and rural districts the entrant boys and girls are apparently more affected by Bronchitis than any other group, although the difference between entrant girls and intermediate girls in rural districts is not significant. There is apparently no significant difference between urban and rural children in any of their respective groups. This excess of Bronchitis amongst entrants rather points to the fact that these little children are too often sent to school in an unfit condition.

TUBERCULOSIS.

All the figures for this disease are very small, and no one group shows any significant difference from any other group. The probability is that most of the children suffering from active and easily recognisable tuberculosis are out of school.

CHOREA AND INFANTILE PARALYSIS.

All the figures for this disease are very small, and no one group shows any significant difference from any other group. The probability is that most of the children suffering from active and easily recognisable “ Chorea and from Infantile Paralysis ” are out of school.

RICKETS.

The entrants are in excess, except among the girls in rural districts, where there is practically no significant difference between entrant and intermediate girls. There seems to be no significant difference between urban and rural children in any of the groups.

VISUAL ACUITY.

The visual acuity of all “ Intermediates,” *i.e.*, children, aged eight years, and of all “ Leavers,” *i.e.*, children aged 12, 13 and 14 years, is tested by means of the Snellen test types, and the following table summarises the results of these tests :—

		BOYS.		GIRLS.	
		Intermediates.	Leavers.	Intermediates.	Leavers.
No. Examined		4,529	5,288	4,290	5,218
6	R.	82·9	83·1	81·4	80·9
	L.	81·6	82·1	79·2	79·0
9	R.	7·2	6·8	8·7	7·0
	L.	8·7	7·4	9·8	8·7
12	R.	3·8	3·2	3·4	3·9
	L.	3·6	3·4	3·7	3·7
18	R.	2·7	2·8	2·9	3·1
	L.	2·8	3·2	3·2	3·5
24	R.	1·7	1·7	1·6	1·8
	L.	1·4	1·6	1·5	2·0
36	R.	0·8	1·2	0·9	1·4
	L.	0·9	1·1	1·2	1·3
60	R.	0·5	0·6	0·6	1·2
	L.	0·5	0·6	0·7	1·0
0	R.	0·3	0·5	0·3	0·5
	L.	0·3	0·4	0·6	0·7

Dental Defects.

As a working standard for the purpose of compiling the Board of Education's statistical table, the state of a child's teeth is noted only when four or more teeth are decayed, or when there are signs of dental sepsis, such as the so-called "gum-boil." These figures are still shown, but with the increasing number of dentists employed by the County it is to be expected that in time their figures, as the only really important ones, will be issued.

Of the children inspected by the dentists, 78·7 per cent. were found to require treatment.

Crippling Defects.

The following table shows the incidence of the principal crippling diseases among the children who were examined in the routine age groups :—

	Entrants.		Intermediates		Leavers.	
	Boys.	Girls.	Boys.	Girls.	Boys.	Girls.
Tuberculosis of Bones and Joints ...	0·01	0·01	0·06	0·02	0·09	...
Infantile Paralysis	0·09	0·08	0·1	0·2	0·1	0·1
Rickets	1·3	0·8	0·2	0·2	0·3	0·1
Spinal Curvature and other Deformities	2·0	1·4	1·4	1·2	1·4	1·8

The following table shows the position amongst the group of "Specials" :—

	Boys.	Girls.
No. Examined	6,454	6,586
Tuberculosis of Bones and Joints ...	5	4
Infantile Paralysis	16	7
Rickets	15	13
Spinal Curvature and other Deformities	98	98

The total number of children belonging either to the routine age groups or to the class of "Specials" who were found to be suffering from one of the conditions which produce crippling, is shown below :—

Tuberculosis of Bones and Joints	20
Infantile Paralysis	69
Rickets	225
Spinal Curvature	123
Other Deformities	623
	1060

It is to be noted that the above table refers to the conditions which produce crippling, and not necessarily to actual crippling; many of the conditions noted require observation only, and not active treatment.

The ascertainment of all the crippled children in the Administrative County is being actively pursued. At the end of 1927 the number of crippled children of Elementary School age who had been definitely entered on the new register of cripples was as follows :—

	Boys.	Girls.	Total.
Active non-pulmonary tuberculosis, chiefly of bones and joints	84	58	142
All other forms of crippling	864	742	1,606

These figures give a very imperfect idea of the amount of crippling conditions which have to be treated under the Authority's Cripple Scheme ; they take no account of the cripples under school age, and yet the incidence of the principal causes of crippling—tuberculosis, rickets, and infantile paralysis—is largely prior to school age and occurs in the first five years of life.

INFECTIOUS DISEASE.

Of administrative procedures for the prevention of infectious disease the most important are :—

1.—The exclusion of children suffering from, or showing symptoms suggestive of, infectious disease, or who may, it is feared, develop disease after exposure to infection ;

2.—The closure of schools or of departments of schools.

During 1927 it was found necessary to close 227 schools on account of the prevalence of infectious disease, and one school was also closed owing to inadequate heating facilities. Every endeavour has again been made by the Assistant County Medical Officers to work in close co-operation with the local Medical Officers of Health whenever the closure of a school or department was in question.

The following tables show the number of schools which were closed during the year and the causes of closure :—

No. of Schools Closed during 1927 by the Sanitary Authority

(Article 57 of the Code).

Influenza	114
Measles	40
Scarlet Fever	2
Whooping Cough	3
Diphtheria	4
Measles and Chicken-pox	2
Influenza and Chicken-pox	1
Influenza and Colds	1
Chicken-pox	3
Influenza and Throat Complaints	2
Influenza and Whooping Cough	2
Mumps	2
	176

No. of Schools closed during 1927 by the School Medical Officer (Article 45 (b) of the Code.

Measles	5
Diphtheria	3
Influenza	38
Measles and Whooping Cough	2
Influenza and Chicken-pox	1
Influenza and Measles	2
Inadequate heating facilities	1
	52

There are two Authorities concerned in the closure of schools for Infectious Disease. The type of epidemic and the severity of the disease are known to the Local Medical Officer of Health, and this knowledge guides him very largely in determining whether a school shall be closed at the outset, or shortly afterwards. The Local Medical Officer of Health is concerned not with the average attendance at school, but solely with the control of the spread of Infectious Disease.

The School Medical Officer may close the school under Article 45(*b*) of the Code for medical reasons only. Such medical reasons would include not only the control of Infectious Disease, but conditions affecting the health of the children in other ways, such as bad lighting, bad ventilation, or the occurrence of any defect in the heating apparatus, all of which might be prejudicial to the health of the children. In practice, the two officers are concerned with the same thing, *i.e.*, the spread of Infectious Disease. The closure of schools for any other reason is seldom required.

Neither officer should take into account the closure of schools where the attendance has already fallen by a large amount through the occurrence of Infectious Disease, for the simple reason that the damage has already been done. In such cases, however, the School Medical Officer is empowered to give certificates to any school where the attendance, on account of the occurrence of Infectious Disease, has fallen below 60 per cent. of the number of children on the Register.

The number of such certificates given during 1927 was 757. The control of infectious disease is referred to later on in this Report in a paper by Dr. Johnstone.

EXCLUSIONS FROM SCHOOL.

Article 53 (*b*) of the Code provides for the exclusion of individual children from school (1) on the ground that their exclusion is desirable to prevent the spread of disease, or (2) on the ground that their uncleanly or verminous condition is detrimental to the other scholars, or (3) on the ground that, owing to their state of health or their physical or mental defects, they are incapable of receiving proper benefit from the instruction in the school.

The exclusion of individual children, as distinct from closure of the whole school, is made by the Committee's own staff.

The exclusion by the Assistant County Medical Officers and Nurses is made on a special form in triplicate. One copy is sent to the Central Office for the approval and counter-signature of the School Medical Officer ; another is left in the school as authorisation for the Head Teacher and School Attendance Officer ; and the third is retained by the Medical Officer or Nurse as a record. The exclusions are made for a specified period, and the children are re-examined at the end of the period, and either re-admitted as fit for school or excluded for such further period as may be necessary.

In the following table the number of children excluded under Article 53 (*b*) and the causes of exclusion are shown :—

District No.	Uncleanliness.		Scabies.	Ring-worm.	Impet-igo.	Scarlet Fever.	Measles	Mumps.	Diph-theria.	Chicken Pox.	Phthisis	Bron-chitis.	Whoop-ing Cough.	Other Diseases	Totals.
	Head.	Body.													
1	3	29	3	51	31	...	1	10	...	33	...	1	4	56	222
2	...	...	...	6	...	...	...	...	...	...	...	2	...	8	16
3	1	...	...	...	...	1	...	2	...	...	...	...	...	...	4
4	3	4	16	29	82	...	1	23	...	18	...	...	...	114	290
5	6	...	...	...	4	...	...	...	...	...	...	...	...	1	11
6	...	...	...	...	...	...	...	...	...	...	...	3	...	8	11
7	144	10	10	3	24	...	...	1	...	...	...	5	1	54	252
8	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
9	...	...	...	...	2	...	...	...	...	5	...	...	...	1	8
10	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	1	1
13	1	...	...	...	...	...	...	...	...	...	...	...	...	1	2
14	156	1	1	8	7	...	...	...	...	4	...	10	17	44	248
15	...	2	...	2	12	...	3	...	...	22	...	3	...	38	82
16	3	7	...	...	5	...	1	4	...	1	...	3	2	33	59
18	110	1	...	9	34	3	...	...	...	6	...	6	2	53	224
19	2	3	1	2	14	...	...	...	1	...	...	9	...	54	86
20	1	...	...	2	12	...	...	1	...	...	...	19	...	97	132
21	7	10	1	2	17	...	1	2	1	...	1	17	...	120	179
22	...	...	11	5	24	...	...	...	...	...	...	16	...	133	189
23	...	2	2	1	10	...	...	...	...	...	...	...	...	37	52
24	...	...	...	...	...	...	...	...	...	...	...	...	...	21	21
25	...	...	1	6	36	1	1	2	...	2	...	4	...	148	201
26	1	...	2	...	...	...	...	4	...	...	...	5	...	54	66
27	...	5	4	7	7	...	...	7	...	...	...	4	1	70	105
28	...	3	1	...	...	...	1	...	1	2	...	...	2	20	30
29	...	1	23	2	56	11	9	11	5	4	...	28	1	715	866
30	1	...	17	1	37	1	1	18	...	...	2	45	...	306	429
31	13	2	...	...	4	...	...	2	...	1	...	1	...	37	60
32	1	...	1	8	6	...	...	...	1	...	...	...	1	14	32
33	1	...	...	7	18	1	...	9	...	1	...	2	2	23	64
34	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
35	...	3	...	1	1	...	...	...	...	...	...	...	...	21	26
Totals	454	83	94	152	443	18	19	96	9	99	3	183	33	2283	3969

FOLLOWING-UP.

This was fully described in the Annual Report for 1925.

During the year the Nurses as School Nurses visited 15,249 homes, and also made 191,127 examinations of school children in school, paying 3,889 visits to the schools, in addition to the visits paid to and the work done in the schools when they assisted the medical officers at routine inspections. As Health Visitors they paid 80,729 visits to homes, 3,832 visits to expectant mothers, 287 visits to cases of ophthalmia neonatorum, and 1,228 visits on miscellaneous matters ; in the Child Welfare Centres they saw babies and young children 89,364 times, and expectant mothers 3,298 times.

MEDICAL TREATMENT.

The policy of asking parents to contribute according to their means is still followed. Cases are first of all referred to their own doctor, who treats the case if satisfactory arrangements can be made. If no treatment has been obtained within a month, the case is then referred to the Clinic, when such is available, or to Hospital, as the case may be. A nominal sum is asked for each attendance at the Clinic, but in necessitous cases no charge is made. The consent, in writing, of a parent or guardian is obtained before treatment of any kind is given.

Treatment continues to expand. The development of Medical Treatment has progressed still further, and during the year additional Clinics have been opened at Ashton-in-Makerfield and Rishton for the treatment of minor ailments, defective eyesight, and teeth defects. Arrangements have also been made with the Burnley Victoria Hospital for the operative treatment of tonsils and adenoids and the treatment of defective vision and squint, and with the Leigh Borough Clinic for the operative treatment of tonsils and adenoids.

The following is a list of the School Clinics now open for treatment, the kind of work which is undertaken in each being shown :—

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Ashton-in-Makerfield	Mon.	10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Tues.	10 a.m. to 12 noon	Minor ailments	
		2 p.m. to 4 p.m.	Orthopædic	Surgeon attends second Tuesday in each month only.
	Wed.	10 a.m. to 12 noon	Ophthalmic	
		10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Thurs.	2 p.m. to 4 p.m.	Minor Ailments	Nurse only. Re-dressings.
	Fri.	10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Ashton-under-Lyne	Wed.	10 a.m. to 12 noon	Orthopædic	Surgeon attends fourth Wednesday in each month only.
	Fri.	10 a.m. to 12 noon	Orthopædic	Nurse only.
Burnley	Thurs.	2 p.m. to 4 p.m.	Orthopædic	Surgeon attends second Thursday in each month only.
Chadderton	Wed.	2 p.m. to 4 p.m.	Orthopædic	Surgeon attends fourth Wednesday in each month only.
	Fri.	2 p.m. to 4 p.m.	Orthopædic	Nurse only.
Dalton-in-Furness	Mon.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Tues.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		2 p.m. to 4 p.m.	Orthopædic	First Tuesday in each month only.
	Wed.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Thurs.	9-30 a.m. to 12 noon	Dental	
		9-30 a.m. to 12 noon	Minor ailments	
	Fri.	10 a.m. to 12 noon	Ophthalmic	
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Fleetwood	Mon.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		10-30 a.m. to 12-30 p.m. 2 p.m. to 4 p.m.	Orthopædic	Nurse only.
	Tues.	9-30 a.m. to 12 noon	Minor ailments	
	Wed.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
	Thurs.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Fri.	10-30 a.m. to 12-30 p.m. 2 p.m. to 4 p.m.	Orthopædic	Surgeon attends third Friday in each month only.
Great Crosby	Tues.	10 a.m. to 12 noon	Dental	
	Thurs.	10 a.m. to 12 noon	Dental	
	Fri.	10 a.m. to 12 noon	Dental	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Haydock	Mon.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		2 p.m. to 4 p.m.	Dental	
	Tues.	10 a.m. to 12 noon	Orthopædic	Surgeon attends second Tuesday in each month only.
		2 p.m. to 4 p.m.	Dental	
	Wed.	10 a.m. to 12 noon	Minor ailments	
		2 p.m. to 4 p.m.	Dental	
	Thurs.	10-30 a.m. to 12-30 p.m.	Ophthalmic	Open alternate weeks only.
		10-30 a.m. to 12-30 p.m.	Dental	Open alternate weeks only.
	Fri.	9-30 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
Horwich	Mon.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		2 p m. to 4 p.m.	Dental	
	Tues.	9-30 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
	Wed.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		10 a.m. to 12 noon	Orthopædic	Surgeon attends first Wednesday in each month only. Nurse attends first and third Wednesday.
	Fri.	9-30 a.m. to 12 noon	Minor ailments	
Irlam	Mon.	9-30 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
	Tues.	9-30 a.m. to 12 noon	Minor ailments	
	Wed.	9-30 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
	Thurs.	9-30 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		9-30 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
		2 p.m. to 4 p.m.	Orthopædic	Surgeon attends third Thursday in each month only.
	Fri.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
Kearsley	Mon.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		2 p.m. to 4 p.m.	Minor ailments	Nurse only. Re-dressings.
	Tues.	9 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
		10 a.m. to 12 noon	Orthopædic	Nurse only.
	Wed.	2 p.m. to 4 p.m.	Orthopædic	Surgeon attends first Wednesday in each month only.
	Thurs.	9 a.m. to 12 noon	Minor ailments	
	Fri.	9 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.		
Lancaster	Wed.	2 p.m. to 4 p.m.	Orthopædic	First Wednesday in each month only.
	Thurs.	10 a.m. to 12 noon	Ophthalmic	Open by arrangement when sufficient number of cases for treatment, usually monthly. Day changed to Monday during summer months.

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Leyland	Mon.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		2 pm. to 4 p.m.	Orthopædic	Surgeon attends first Monday in each month only.
	Tues.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	9-30 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
	Thurs.	9-30 a.m. to 12 noon	Minor ailments	
	Fri.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Litherland	Mon.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Tues.	10 a.m. to 12 noon	Minor ailments	
		2 p.m. to 4 p.m.	Dental	
	Wed.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Thurs.	9-15 a.m. to 12-15 p.m.	Ophthalmic	
		10 a.m. to 12 noon	Orthopædic	Nurse only.
		2 p.m. to 4 p.m.	Dental	
	Fri.	9 a.m. to 10 a.m.	Inspection	
		10 a.m. to 12 noon	Minor ailments	
		2 p.m. to 4 p.m.	Orthopædic	Surgeon attends first Friday in each month only.
Littleborough	Mon.	9 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings
		10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
	Thurs.	9 a.m. to 12 noon	Minor ailments	
	Fri.	10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Nelson	Fri.	2 p.m. to 4 p.m.	Orthopædic	Surgeon attends third Friday in each month only.
Ormskirk (A)	Mon.	10 a.m. to 12 noon	Minor ailments	Open alternate weeks only. (Re-dressings by Hospital Staff each day).
	Fri.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Ormskirk (B)	Wed.	10 a.m. to 12 noon	Orthopædic	Surgeon attends fourth Wednesday in each month only.
Prescot	Mon.	9 a.m. to 12 noon	Dental	
		9 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
	Tues.	9 a.m. to 12 noon	Dental	
	Wed.	9 a.m. to 12 noon	Dental	
		2 p.m. to 4 p.m.	Ophthalmic	Open alternate weeks only
	Thurs.	9 a.m. to 12 noon	Minor ailments	
	Fri.	10 a.m. to 12 noon	Orthopædic	Surgeon attends first Friday in each month only. Nurse attends each Friday, except third Friday.

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Preston	Wed.	2 p.m. to 4 p.m.	Orthopædic	Surgeon attends fourth Wednesday in each month.
Ramsbottom	Mon.	9 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
	Tues.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	9 a.m. to 12 noon	Minor ailments	
	Fri.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Rishton	Mon.	9-30 a.m. to 12 noon	Minor ailments	Nurse only. Re-dressings.
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Tues.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		2 p.m. to 4 p.m.	Orthopædic	Surgeon attends fourth Wednesday in each month only.
	Fri.	9-30 a.m. to 12 noon	Minor ailments.	
		9-30 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
Royton	Tues.	9 a.m. to 12 noon	Minor ailments	
		9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
	Thurs.	10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Fri.	9 a.m. to 12 noon	Minor ailments—	Nurse only. Re-dressings.
Skelmersdale	Wed.	10 a.m. to 12 noon	Inspection	
Tyldesley	Mon.	10 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		2 p.m. to 4 p.m.	Orthopædic	Nurse only.
	Tues.	9 a.m. to 12 noon	Minor ailments	
		10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Wed.	10 a.m. to 12 noon	Orthopædic	Surgeon attends second Wednesday in each month only.
	Thurs.	10 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		2 p.m. to 4 p.m.	Minor ailments	Nurse only. Re-dressings.
Westhoughton	Mon.	9 a.m. to 12 noon	Dental	
		9 a.m. to 12 noon	Minor ailments	
	Wed.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		10 a.m. to 12 noon	Ophthalmic	Open every fourth Wednesday only.
		2 p.m. to 4 p.m.	Minor ailments	Nurse only. Re-dressings.
	Thurs.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Fri.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	

Township.	Days and Times of Opening.		Nature of work undertaken.	Remarks.
Whitefield	Mon.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Tues.	9 a.m. to 12 noon	Minor ailments	
	Wed.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
	Thurs.	9 a.m. to 12 noon 2 p.m. to 4 p.m.	Dental	
		10 a.m. to 12 noon	Orthopædic	Surgeon attends third Thursday in each month only.
	Fri.	9 a.m. to 12 noon	Ophthalmic	Open alternate weeks only.
		2 p.m. to 4 p.m.	Minor ailments.	Nurse only. Re-dressings.
Wigan	Mon.	10 a.m. to 12 noon	Orthopædic	Surgeon attends first Monday in each month only.

Arrangements have been made with the following Hospitals for the treatment of specified classes of defect, those marked with an asterisk being new arrangements made during the year :—

Ancoats Hospital, Manchester	Tonsils and adenoids.
Ashton-under-Lyne Infirmary	Tonsils and adenoids, eye defects, X-ray treatment of ringworm.
Blackburn Infirmary	Do.
Bolton Infirmary	Do.
Bury Infirmary	Do.
*Burnley Victoria Hospital	Tonsils and adenoids ; eye defects.
Hartley Hospital, Colne	Do.
*Leigh Borough Clinic	Tonsils and adenoids.
Myrtle Street Hospital, Liverpool	Tonsils and adenoids ; eye defects.
Oldham Infirmary	Tonsils and adenoids ; eye defects ; X-ray treatment of ringworm.
Ormskirk Cottage Hospital	Tonsils and adenoids ; eye defects.
Peasley Cross Hospital, St. Helens	Do.
Preston Infirmary	Tonsils and adenoids, eye defects, X-ray treatment of ringworm.
St. Paul's Hospital, Liverpool	Eye defects.
Ulverston Cottage Hospital	Tonsils and adenoids.
Warrington Infirmary	Tonsils and adenoids ; eye defects.
Wigan Infirmary	Tonsils and adenoids.
Ethel Hedley Orthopædic Hospital, Windermere	Crippling defects.
Home for Crippled Children, Bamford, near Rochdale	Do.
Ancoats Hospital, Manchester	Do.
Myrtle Street Children's Hospital, Liverpool	Do.
Liverpool Children's Hospital, Heswall	Do.

MINOR AILMENTS.

These include such defects as running ears, external eye diseases, skin diseases. &c., and treatment for them is available for approximately 43,000 children, additional provision having been made in Ashton-in-Makerfield.

TONSILS AND ADENOIDS.

The operative treatment for tonsils and adenoids is undertaken, not at the School Clinics, but only in Hospitals, where skilled operative treatment can be given by an expert surgeon and the case can be nursed until fit for discharge. This treatment is available for a school population of about 105,000 children. During the year the number of children who received operative treatment for this condition was 1,271, of whom 1,015 were treated under the Committee's scheme.

TUBERCULOSIS.

The treatment of tuberculous school children is in the hands of the Tuberculosis Committee of the Lancashire County Council, and all cases for treatment are referred to the Tuberculosis Officer for the area concerned.

VISION.

The treatment of defects of vision is undertaken either in the Eye Departments of General Hospitals or in the Eye Departments of the Committee's own Clinics. In the former case it is undertaken by the Specialist Staff of the Hospital; in the latter case by part-time Visiting Specialists. Arrangements have been made with the following Hospitals :—Ashton-under-Lyne, Blackburn, Bolton, Burnley, Bury, Colne, Oldham, Ormskirk, Preston, St. Helens, Warrington, Liverpool, Myrtle Street Eye and Ear Hospital, and St. Paul's Eye Hospital.

Visiting Specialists attend at the School Clinics in Dalton-in-Furness, Fleetwood, Haydock, Horwich, Irlam, Kearsley, Lancaster, Litherland, Leyland, Littleborough, Prescot, Rishton, Royton, Ramsbottom, Tyldesley, Whitefield, and Westhoughton.

The number of children for whom Specialist eye treatment is available is approximately 120,000. The number of children who received treatment for defective vision or squint was 4,922, of whom 4,165 were dealt with under the Committee's scheme.

Arrangements have also been made with certain firms of opticians, in connection with each Ophthalmic Clinic or Hospital, to supply spectacles at a low fixed charge. In necessitous cases the charge is reduced or remitted altogether. The number of children who either purchased or received free spectacles under this scheme was 2,379.

In one area a local charity has arranged for the treatment of visual defect in Elementary School children, and provides spectacles free of charge to every child requiring them.

DENTAL DEFECTS.

The dental staff now consists of ten full-time and one part-time dental surgeon; each assisted by a nurse or dental attendant. Dental Clinics have been established in Ashton-in-Makerfield, Dalton-in-Furness, Fleetwood, Great Crosby, Haydock, Horwich, Kearsley, Irlam, Leyland, Litherland, Littleborough, Ormskirk, Prescot, Ramsbottom, Rishton, Royton, Tyldesley, Westhoughton, and Whitefield.

These Clinics serve schools with an average attendance of 38,000 children. The number of children who received treatment during the year was 15,778.

As it is impossible, owing to the large number requiring treatment, to attend to all children, the energies of the dentists are concentrated on the younger groups of children during the eruption of the first permanent teeth.

Apart from this routine work, the dentists treat the following classes :—

(*a*) Expectant and Nursing Mothers, on the recommendation of the Medical Officers;

(*b*) Children under school age, similarly;

(*c*) Casuals.

Casuals are of three classes :—

(*a*) Urgent cases, *e.g.*, toothache, dental abscess;

(*b*) Cases where the mouth has to be put into a clean condition previous to operation for tonsils and adenoids;

(*c*) Cases in which the Medical Officer requests that dental treatment should be given for some other medical reason, *e.g.*, anæmia.

ACCIDENTS TO SCHOOL CHILDREN.

The following table showing the accidents which happened to school children during the year is interesting :—

(1) Total number of Accidents reported	256
(2) Number of Accidents—Minor	213
(3) Number of Accidents—Fractures	42
(4) Number of more serious Accidents	1

The following first-aid materials are provided on the Schedule of School Supplies :—

Gauze Bandages, 1 in. in lengths of 6 yards.
Do. 2 in. do.
Boric Lint in rolls of 2 oz.
Cotton Wool in cartons of 4 oz.
Adhesive Plaster on ½-in. spools, 2½ yards long.

CRIPPLING DEFECTS AND ORTHOPÆDICS.

The Committee's work in dealing with crippled children has undergone a great extension during the year, and the Committee may now reasonably claim to have in operation one of the most complete and comprehensive schemes in the country for dealing with crippled children. The Biddulph Grange Orthopædic Hospital which has been purchased by the Committee is now in active operation, and a full description of the Hospital appears later in this Report.

A considerable number of Local Authorities within the County have joined the County Council's orthopædic scheme and are intimately associated with the County Council in the work of caring for crippled children.

The treatment of crippling defects is a tedious and protracted process, involving lengthy and expert after-care, without which the necessary initial procedures of the surgeon are either futile or largely wasted in many types of case, and orthopædic surgery is brought into discredit. In treating a crippled child it is essential that the surgeon should not only determine the exact surgical or manipulative measures which are the first step in the process of cure or amelioration, but that he should clearly envisage and mark out the subsequent and remote path by which the patient is to be led to the desired end. In such a long course of treatment it is necessary that a single mind should direct the whole procedure from beginning to end.

As a matter of administration, the treatment of cripples may be arranged in one of two ways. The patient may be kept in a suitable type of hospital for the whole duration of his treatment, often lasting over a term of years; or after a period in hospital during which any necessary surgical measures are carried out, he may be discharged and kept under expert supervision afterwards. The first is probably the ideal way, but it is generally speaking impracticable and, except for certain types of case, unnecessary. The advantage of the second method, apart from the reduction in cost, is that it enables a much greater number of cases to be dealt with. There is, however, a certain tendency at present to curtail unduly the length of residence in the hospital, which is usually situated in ideal country surroundings, and this tendency should be resisted. In the treatment of crippling, as of many other abnormal conditions, the value of a prolonged stay in a healthy environment, with plenty of sunshine, fresh air, and good food, cannot be exaggerated ; for the crippling conditions caused by tuberculosis and rickets it is indispensable.

These principles are the foundation of the Scheme which the Committee have put into operation.

A brief description of the Scheme follows :—

For the purpose of the Scheme the County has been divided into two parts, one of which has for its centre the Ancoats Hospital, Manchester, and the other the Royal Liverpool Children's Hospital.

At the centre of the Manchester area stands the Ancoats Hospital, Manchester, with the Biddulph Grange Orthopædic Hospital and the Ethel Hedley Hospital, Windermere, as the Country Hospitals ; round these are arranged peripherally a series of After-Care Centres. Included in the Committee's arrangements, but not yet articulated with the main scheme, is the Memorial Home for Crippled Children, Bamford, near Rochdale. The Ancoats Hospital is the central clearing station for the whole of this area, although all cases do not necessarily go through the clearing station, if dealt with peripherally at the After-Care Centres.

Mr. Harry Platt, M.D., M.S., F.R.C.S., Orthopædic Surgeon of the Ancoats Hospital, of the Biddulph Grange Orthopædic Hospital, and of the Ethel Hedley Hospital, Windermere, is the Consulting Orthopædic Surgeon. Mr. Platt is ultimately responsible for all treatment. The Junior Orthopædic Surgeons are Mr. E. S. Brentnall, M.B., F.R.C.S., Surgical Registrar of the Orthopædic Department of Ancoats Hospital, Orthopædic Surgeon to the Stockport Infirmary, and Assistant Orthopædic Surgeon of the Biddulph Grange Orthopædic Hospital, and of the Ethel Hedley Hospital, Windermere; Mr. H. Poston, M.B., M.Ch., Surgical Registrar, Ancoats Hospital, and Consulting Surgeon, Grangethorpe Hospital, Ministry of Pensions; and Mr. S. M. Milner, M.B., F.R.C.S. All the operative work is done either by Mr. Platt or by Mr. Brentnall. Dr. W. H. Bateman, Surgeon of the Rochdale Infirmary, is in complete charge of the Memorial Home for Crippled Children, at Bamford, and does all the operative work there.

The Orthopædic Department of Ancoats Hospital is very extensive and complete; every facility exists for diagnosis, treatment, and after-care. The Committee have taken full advantage of this complete service and have made financial arrangements with the Hospital, which ensure the full use of every facility provided by the Hospital. Thus arrangements have been made for the use of beds, for operations, for X-rays for diagnosis or (where necessary) for treatment, for attendance in the out-patient department for diagnosis or treatment, and for treatment in the massage and remedial exercises department.

The Ethel Hedley Hospital, thoroughly equipped on the most modern lines and substantially supported by Mr. Oswald Hedley, is delightfully situated on the shore of Windermere in the purest of air and the most beautiful surroundings. The County Council have made arrangements for a minimum of one-third of the accommodation. The Ethel Hedley Hospital is recognised by the Board of Education as a Special School and the school expenses are borne on the basis of user by the Lancashire, Westmorland, and Cumberland County Education Committees.

The Memorial Home for Crippled Children at Bamford was built specially for the purpose of an open-air home by Mr. Walter Scott, of Rochdale. It is situated high up on the moors above Rochdale, in a place of wide prospect and bracing air. It also is recognised by the Board of Education as a Special School. Here the County Council have made arrangements for the use of fifteen beds.

The following Local Authorities are now included in this part of the County's Scheme :—

> The County Boroughs of Burnley and Wigan, the Municipal Boroughs of Ashton-under-Lyne, Colne, Lancaster, Leigh, Morecambe, and Nelson; and the Urban Districts of Chadderton, Farnworth and Radcliffe.

The Urban Districts of Denton, Horwich, Royton, and Westhoughton, which are autonomous for Maternity and Child Welfare work, have also joined the County Council's Scheme in respect of their children under school age.

Up to the present, 14 After-Care Centres have been established—at Ashton-under-Lyne, Burnley, Chadderton, Dalton-in-Furness, Horwich, Irlam, Kearsley, Lancaster, Leyland, Nelson, Rishton, Tyldesley, Whitefield, and Wigan. The Ancoats, Ethel Hedley, and Bamford Hospitals act also as After-Care Centres for patients in their neighbourhood. For the purposes of After-Care, two thoroughly trained and experienced After-Care Nurses have been appointed, who are highly expert in plaster and appliance work.

Each of these After-Care Centres, which are held in existing School Clinics, meets once a week, and crippled children in the district served by the Centre are seen by the After-Care Nurse, who adjusts their splints, applies or changes their plasters, gives instruction in remedial exercises, and does whatever else is necessary. Once a month each Centre is visited by the Junior Orthopædic Surgeon in charge of the Centre, who sees all the cases under treatment and who sees all new cases; on this day also the Assistant County Medical Officer for the district attends for the purpose of conferring with the Junior Orthopædic Surgeon about the cases. The Dalton-in-Furness and the Lancaster Centres are visited by the staff of the Ethel Hedley Hospital, to whom the thanks of the Committee are due. Once a year the Consulting Orthopædic Surgeon, Mr. Platt, sees every case at the Centres.

New cases are ordinarily seen in the first instance in the After-Care Centres by the Junior Orthopædic Surgeon, who decides on the further steps—whether treatment by the After-Care Nurse; admission to the Biddulph Grange Orthopædic Hospital, or the Ethel Hedley Hospital, Windermere; reference to the Ancoats Hospital, Manchester, for further examination by X-rays, or for consultation with the Orthopædic Surgeon, Mr. Platt, or for admission and operation. As a rule, only short stay cases are admitted to Ancoats, the long stay cases going to the Biddulph Grange Orthopædic Hospital, or to the Ethel Hedley Hospital, Windermere.

Full clinical notes are kept on each case at the Centres, and copies of the notes made at Ancoats, Biddulph, or Windermere are also sent to the Centres for the use of the Junior Orthopædic Surgeon, the Assistant County Medical Officer, and the After-Care Nurse. There is thus a complete record of each case.

At the centre of the Liverpool part of the Scheme, stands the Royal Liverpool Children's Hospital, with its Central Hospital in Myrtle Street, Liverpool, and its Country Hospital at Heswall.

The Committee have been most fortunate in securing the services of Sir Robert Jones, Bart., K.B.E., C.B., F.R.C.S., LL.D., D.Sc., probably the most distinguished Orthopædic Surgeon in the world, as its Honorary Orthopædic Surgeon. Sir Robert Jones has taken a most active interest and has given invaluable help, not only in the organisation of the Scheme but in the actual treatment of the children.

Mr. T. P. McMurray, M.Ch., F.R.C.S., Orthopædic Surgeon of the Royal Liverpool Children's Hospital Myrtle Street, and Heswall, and of the David Lewis Northern Hospital, Liverpool, is the Consulting Orthopædic Surgeon. Mr. B. L. McFarland, M.D., M.Ch., F.R.C.S., Assistant Orthopædic Surgeon of the Royal Liverpool Children's Hospital, Myrtle Street, and Heswall, is the Junior Orthopædic Surgeon.

The Orthopædic Department of Myrtle Street Children's Hospital offers every facility for diagnosis, treatment and after-care, and the Committee have taken full advantage of these facilities and make financial arrangements for their full use. The arrangements made are similar to those made with the Ancoats Hospital, Manchester.

The Country Branch of the Royal Liverpool Children's Hospital is beautifully situated in the Wirrall Peninsula, overlooking the estuary of the Dee. Only short-stay cases are admitted to Myrtle Street, the long-stay cases going to the Country Hospital at Heswall. The Heswall Hospital is recognised by the Board of Education as a Special School, so that the education of the children continues while they are undergoing treatment.

The County Boroughs of Blackpool and Preston, and the Borough of Lytham Saint Annes are, by arrangement, included in this part of the County Council's Scheme.

Up to the present, After-Care Centres for this part of the area have been established in Ashton-in-Makerfield, Fleetwood, Haydock, Litherland, Ormskirk, Prescot, and Preston.

For the purposes of after-care in this area a thoroughly trained and experienced After-Care Nurse has been appointed who is highly expert in plaster and appliance work.

Arrangements have been made with the Warrington Board of Guardians for the treatment at the Whitecross Union Hospital of crippled children from the County area adjacent to Warrington. For this purpose, through the kindness of the Guardians of the Warrington Union, their Hospital has been so co-ordinated with the County's Scheme as to form an additional After-Care Centre offering facilities for massage, electrical treatment, and remedial exercises.

All the facilities of the Scheme are equally available for children under school age in those districts of the Administrative County for which the County Council is the Authority under the Maternity and Child Welfare Act.

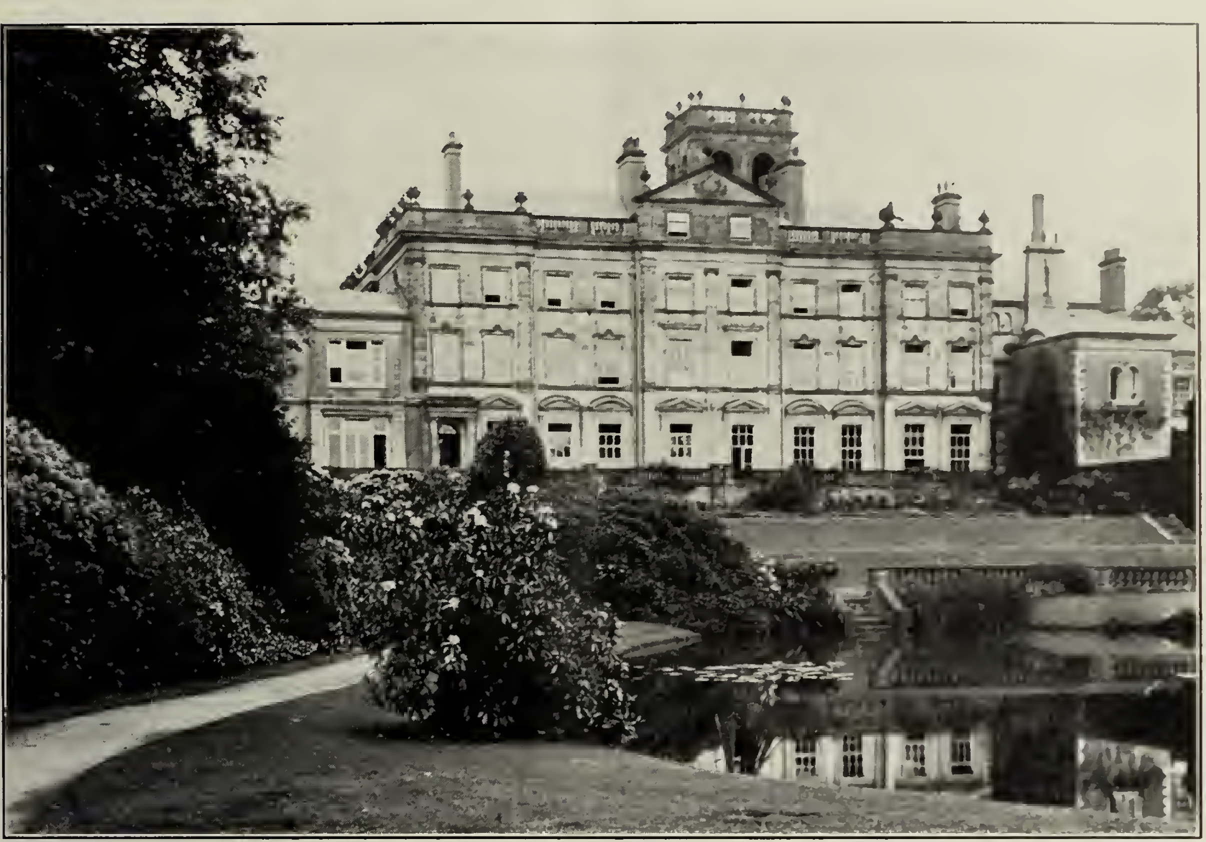
The independent Local Authorities which have taken advantage of the County Council's Scheme are particularly welcomed. The arrangements that have been made ensure that no distinction is made between County Council and non-County Council cases, and the financial adjustments are on the basis of user.

Biddulph Grange Orthopædic Hospital.

The Biddulph Grange Orthopædic Hospital is situated 28 miles south of Manchester in completely rural surroundings. It is just over the Cheshire boundary, and is about three miles from Congleton Railway Station.

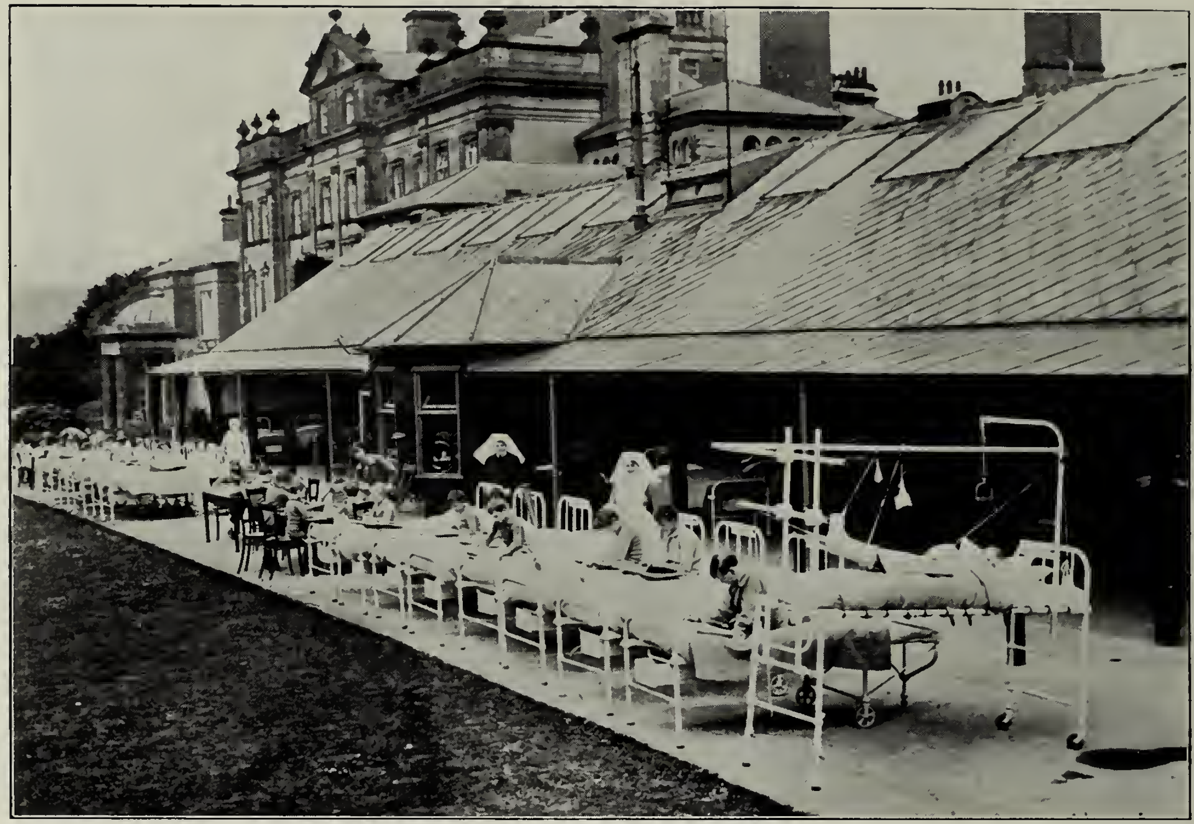
The property consists of a large private mansion standing in beautiful grounds of about 91 acres. It was presented by its owner, Mr. Robert Heath, to a body of Trustees for the purpose of being converted into and utilised as an Orthopædic Hospital. The Trustees converted the mansion by interior structural alterations, and by the addition of three large open-air wards, into a fully-equipped Orthopædic Hospital, which was opened for use in 1923 by His Royal Highness the Prince of Wales.

When the Trustees found themselves unable to carry on the Hospital any longer, it was purchased by the Lancashire County Council.

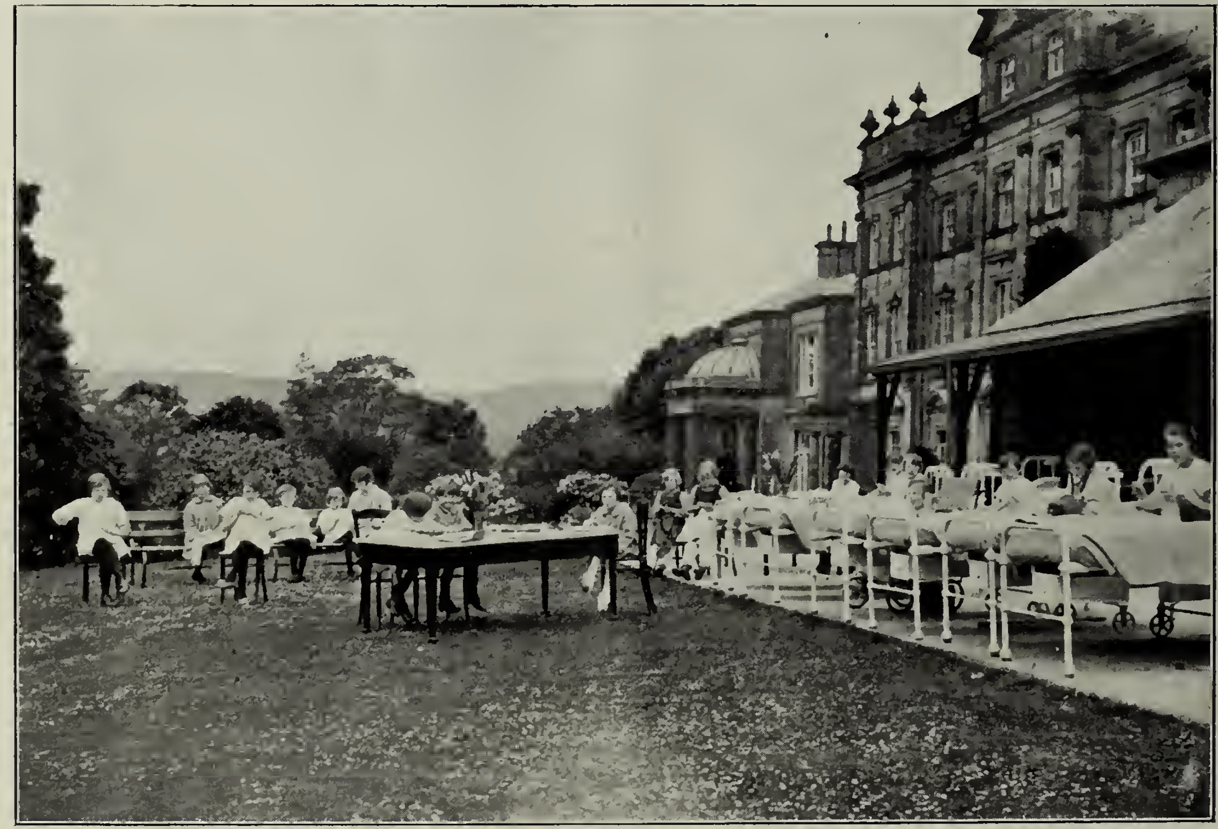


BIDDULPH GRANGE ORTHOPAEDIC HOSPITAL—SOUTH FRONT.

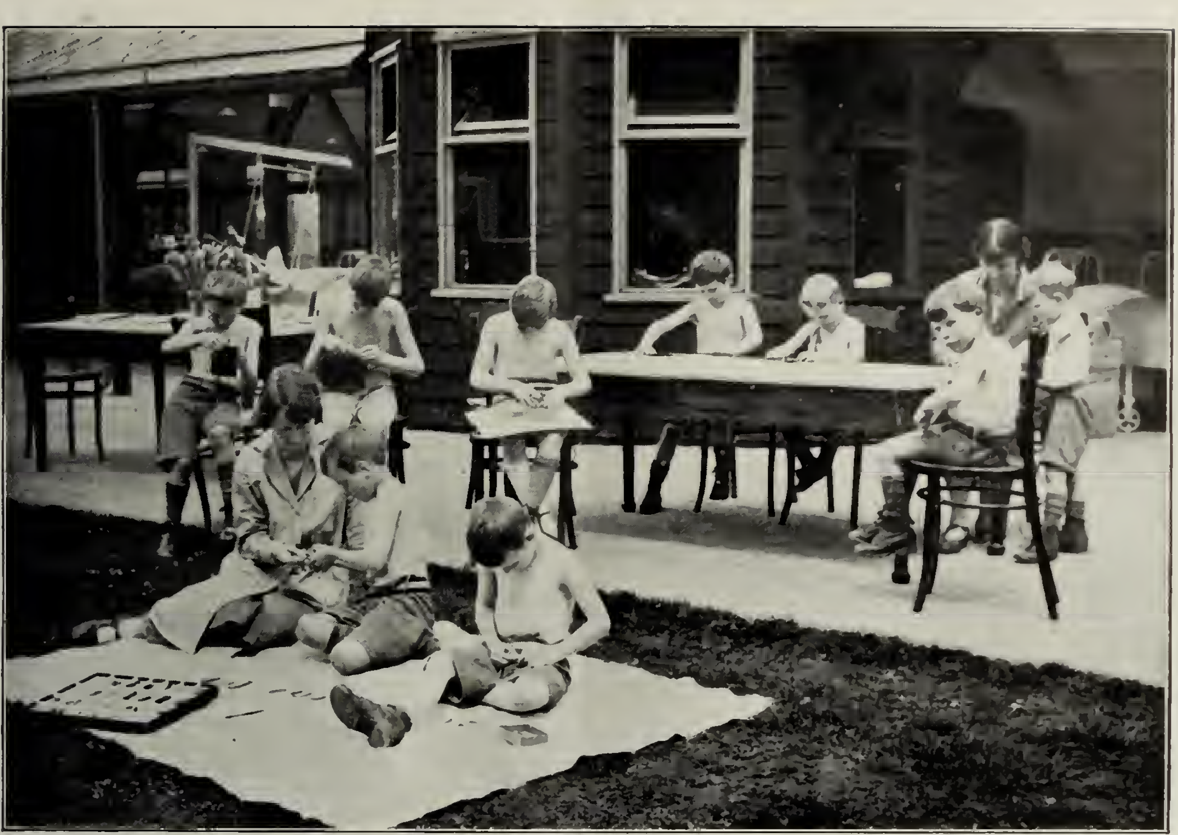
CORNER OF GARDENS FROM TERRACE.



ONE OF THE OPEN-AIR WARDS.

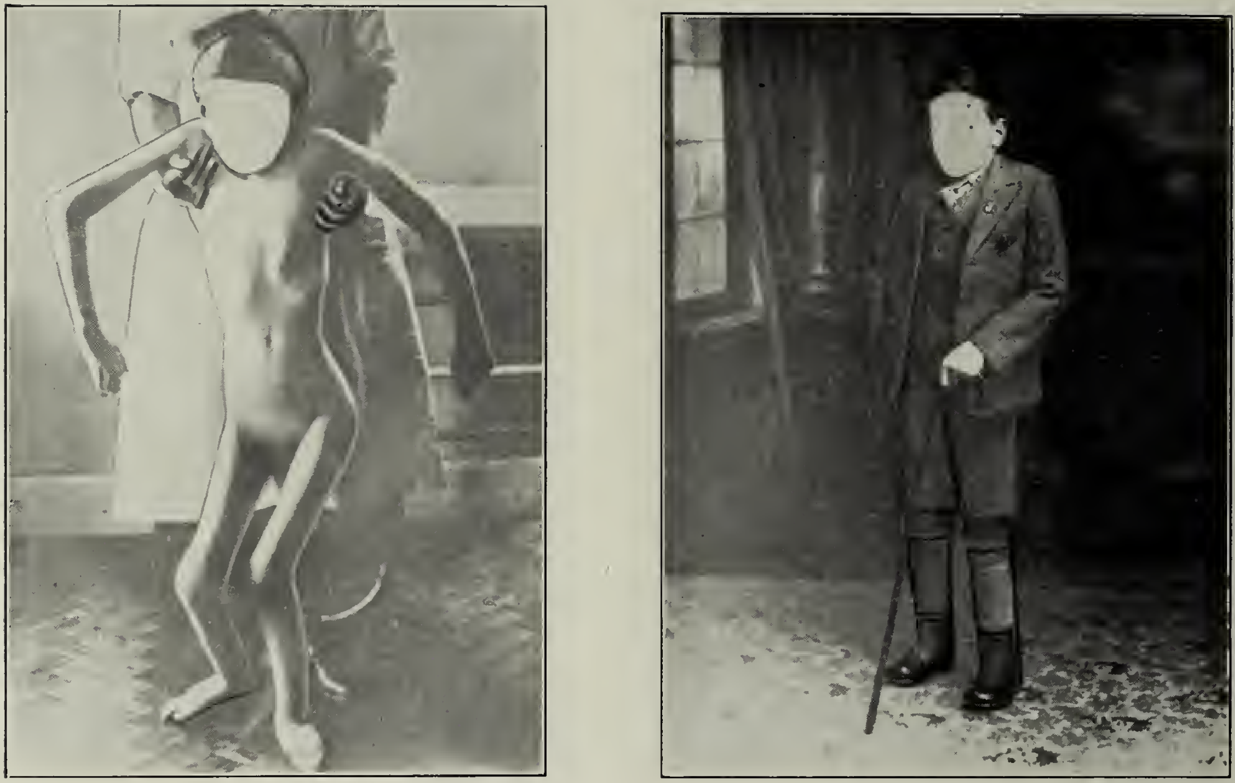


OPEN-AIR WARD WITH CLASS IN SESSION.

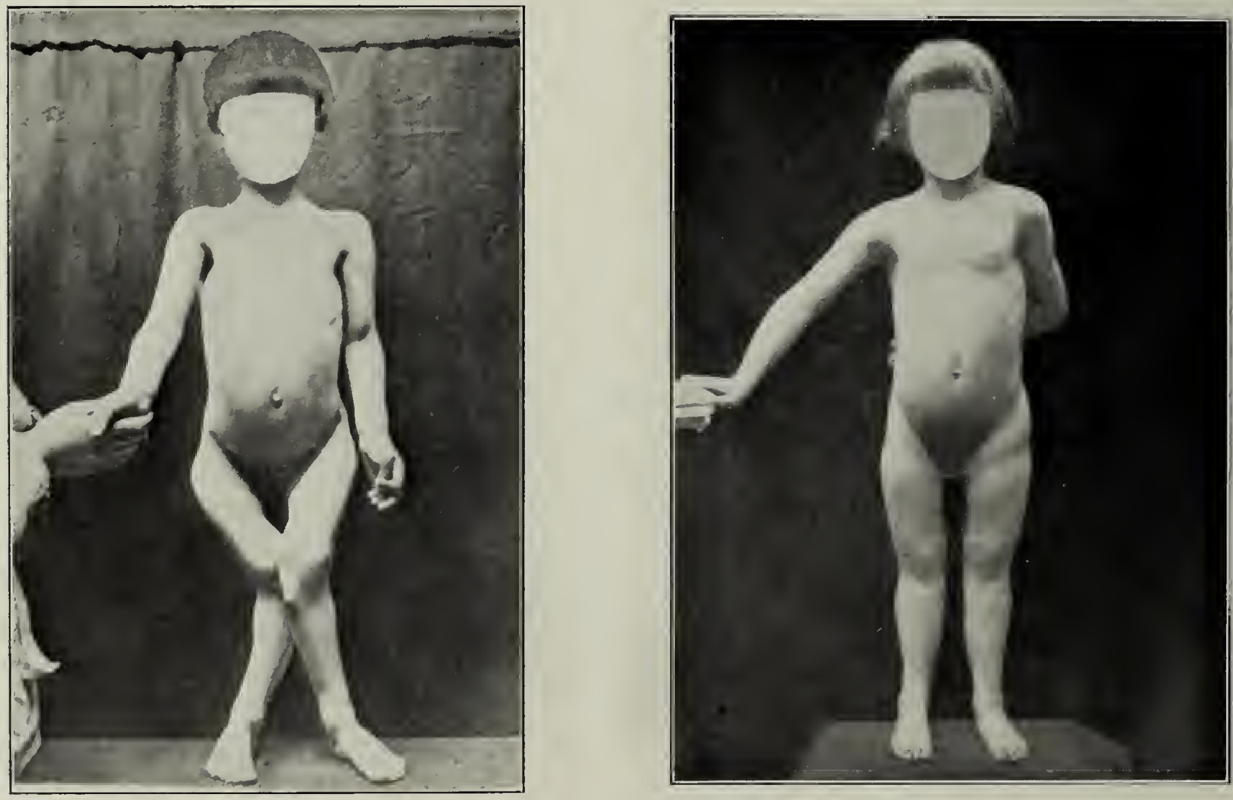


"A SUN BATH"—HANDICRAFT CLASS IN SESSION

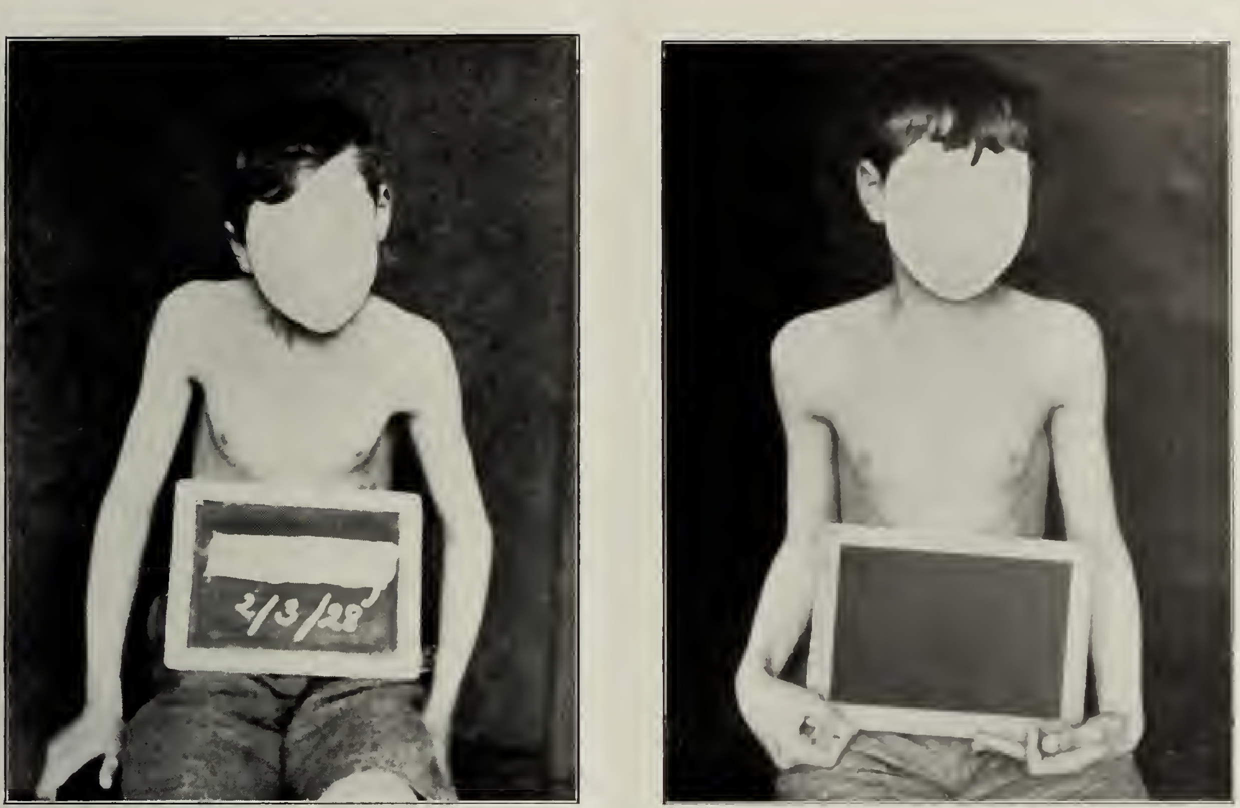
CORNER OF GYMNASIUM.



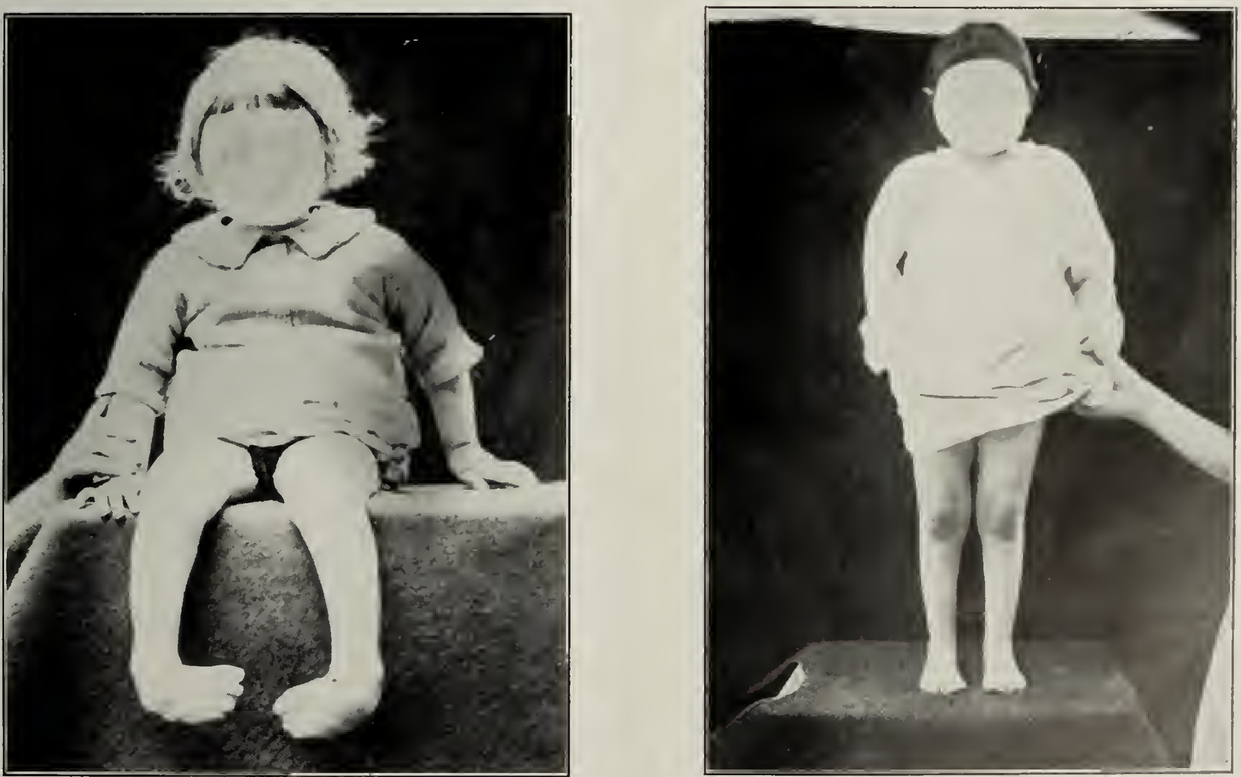
INFANTILE PARALYSIS.
(Same Case Before and After Treatment).



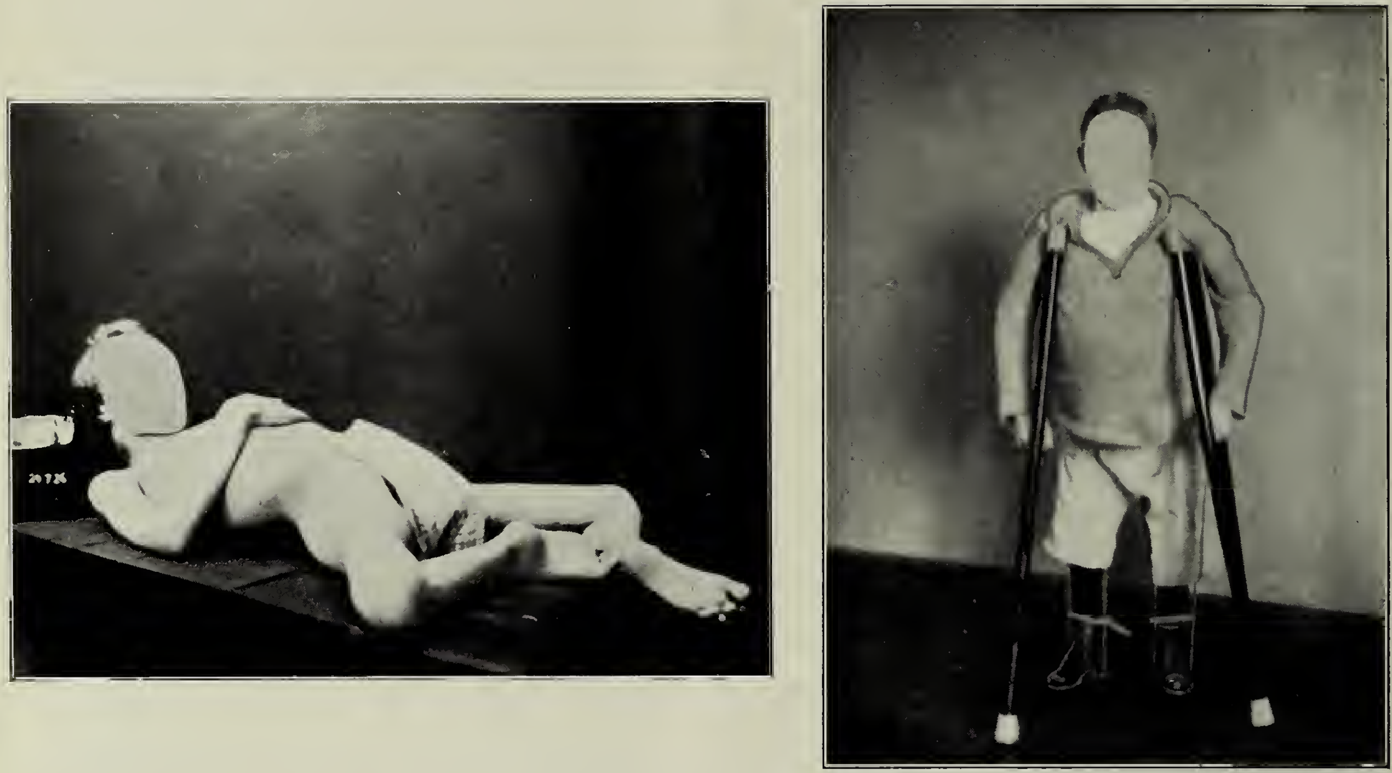
RICKETS.
(Same Case Before and After Treatment).



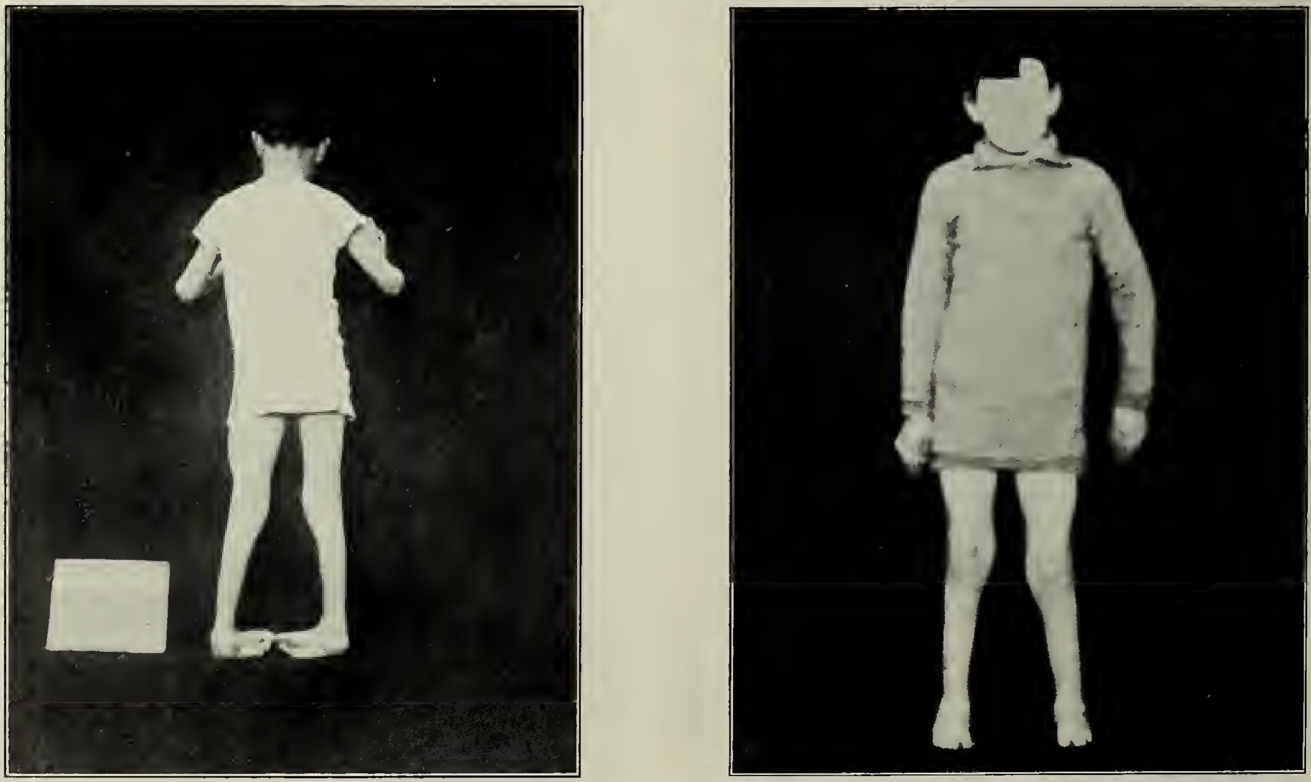
TORTICOLLIS.
(Same Case Before and After Treatment).



CONGENITAL TALIPES EQUINO VARUS.
(Same Case before and After Treatment).



INFANTILE PARALYSIS.
(Same Case Before and After Treatment).



CONGENITAL TALIPES EQUINO VARUS.
(Same Case Before and After Treatment).

The mansion itself forms the administrative block, and in addition to small wards, contains the operating theatre, plaster rooms, gymnasium, X-ray room, light room, and all the other facilities of a modern Hospital for the treatment of cripples.

The large open-air wards, with their necessary dressing-rooms and kitchens, are on a concrete emplacement at one end of the main building, and look down into the beautiful ornamental gardens. These wards contain accommodation for about 65 patients, and the main building contains accommodation for another 20 to 25 beds.

The mansion and wards face due south, the average rainfall is about 36 ins., and there is a large amount of sunshine. The Hospital stands at an elevation of about 500 feet above sea level, and is protected from north and east winds by rising ground and woodlands. It has its own lighting, water, and sewage systems. All these, together with the heating arrangements, have been thoroughly modernised by the County Council. The County Council have also installed a modern fully-equipped laundry.

The Surgeons to the Hospital are Mr. Harry Platt and Mr. E. S. Brentnall. There are two resident House Surgeons, of whom one is actually on duty and the second is just about to be appointed. The staff also includes two highly-skilled masseuses and medical gymnasts, and a radiologist.

The operating theatre, plaster rooms, gymnasium, &c., are all equipped with the latest appliances and apparatus for the treatment of crippled children.

The Hospital is recognised by the Board of Education as a Special School, and three teachers have been appointed.

The patients are collected at the Victoria Station, Manchester, each Friday, and are conveyed to Biddulph by the Orthopædic Hospital's own ambulance. Discharged patients are returned to Manchester in the same way, where they are met by their parents or, if necessary, conveyed to their homes by one of the County Health Visitors.

This beautiful Hospital, thoroughly equipped and up-to-date, officered by a highly-skilled staff, surgical, nursing and teaching, will enable a large number of crippled children to be treated and restored to usefulness for whom previously there was no accommodation and no chance of treatment.

The following table shows the number of children treated during 1927 :—

	Rochdale Cripple Children's Home.	Ethel Hedley Hospital.	Myrtle Street Hospital.	Ancoats Hospital.	Heswall Hospital.
Inmates, 1st Jan., 1927	14	18	...	...	13
Admitted during the year	19	42	16	3	40
Discharged during the year	18	40	16	3	37
Remaining on 31st Dec., 1927	15	20	...	...	16

AFTER-CARE CENTRES.

The following table is a summary of the work done during the year in the After-Care Centres :—

No. of individual children attended	1478
Total no. of attendances made	5929
No. of children referred to Consultant Orthopædic Surgeon at Hospital (Ancoats or Myrtle Street)	125
No. of children recommended operative treatment by Orthopædic Surgeons at Centre or Hospital	229
No. of plasters made at Centres	87
No. of surgical appliances, *e.g.*, boots, irons, &c., supplied through Centres	547
No. of children given remedial exercises	552
No. of children for whom treatment has been refused by parents or guardians	59

The following table shows the defects from which the children seen in the After-Care Centres were suffering :—

Paralysis—	
Infantile—Upper Limb	40
Lower Limb	198
Upper and Lower Limbs	17
Spastic—Monoplegia	3
Diplegia	16
Paraplegia	28
Hemiplegia	49
Birth Palsy	45
Pseudo Hypertrophic Muscular Dystrophy	1
Diphtheritic Paralysis	2
Congenital Hemiplegia	2
Little's Disease	2
Post Scarlatinal Paralysis	1
Deformities, Congenital—	
Torticollis	36
Cubitus Varus	1
Cervical Rib	1
Spina Bifida	4
Spina Bifida with Club Foot	4
Achondroplasia	2
Hydrocephalus	3
Cleft Palate	3
Scoliosis	15
Sprengel's Shoulder	4
Rudimentary and Malformed Limbs	7
Rudimentary and Malformed Ear	1
Talipes Equino Varus	67
Talipes Equino Valgus	8
Talipes Equino Calcaneous	1
Pes Calcaneous	5
Calcaneo Valgus	1
Metatarsus Varus	5
Dislocation of Hip	29
Contractions	5
Depressed Sternum	1
Syndactylism	2
Wedged Vertebra	1
Adduction Fifth Toe	2
Hypospadias	1
Supernumerary Digits	1
Deformities, Traumatic—	
Phalanx	1
Clavicle	1
Fractures of Upper and Lower Limbs	47
Dislocation of Finger	1
Subluxations	3
Sprain	2
Displaced Epiphysis	1
Overgrowth of Femur	1
Contusions	10
Cut Tendons	4
Torn Tendons	2
Amputations	1
Obstetric Fracture	1
Coxa Vara	1
Kohler's Disease	2
Brachial Plexus Injury	1
Flexion of Fingers	2
Vaulhmann's Ischemic Contraction	1

Deformities, Other—	
Pronated Feet	3
Pes Cavus	25
Pes Varus	2
Pes Planus	126
Spasmodic Flat Foot	1
Claw Feet	2
Hallux Valgus	5
Scoliosis	24
Kyphosis	83
Lordosis	9
Synostosis Radius and Ulna	1
Pseudo Coxalgia	3
Genu Recurvatum	1
Hammer Toes	6
Hallux Rigidus	1
Birth Fracture	1
Ankylosis of Jaw	1
Rickets—	
Genu Varum	93
Genu Valgum	97
Genu Varum and Coxa Vara	7
Generalised	39
Acute	16
Delayed (Dwarf)	4
Inflammations—	
Epiphysitis of Knee	1
Arthritis	4
Arthritis, Suppurative	5
Arthritis, Infective	8
Periostitis and Osteitis	4
Synovitis	12
Apophysitis	1
Bursitis	5
Abscess Inguinal	1
Abscess	1
Perthe's Disease	4
Pyæmia	1
Schlatter's Disease	1
Septicæmia	1
Toxic Hip	1
Osteomyelitis	12
Scaphoiditis	1
Muscular Rheumatism	2
Tuberculosis—	
Active—Knee	1
Hip	1
Ankle	1
Os Calcis	1
Spine	2
Old—Knee	3
Spine	9
Hip	8
Shoulder	1
Wrist	1
Tumours—	
Exostosis—Multiple	4
Upper Limb	1
Lower Limb	1
Ganglion	4
Hæmatoma of Sterno Mastoid	1
Fibroma	1
Chondroma	1
Lipoma	2
Cyst	5

Cyst Dermoid	1
Unclassified	14
Nervous Diseases—	
Mental Deficiency	8
Encephalitis Lethargica ...	1
Posterior Encephalitis	1
Ataxia	1
Miscellaneous—	
Keloid Axilla	1
Keloid Hand	1
General Muscular Hypotonia ...	1
Nævus	1
Hemihypertrophy	1
Malnutrition	1
Unclassified	87
Total	1478

The following table shows concisely the work done during the year in the Hospitals with which the Committee has arrangements :—

Defect.	No. of Cases treated.	Cured.	Improved.	Improving.	Died.	Refused Treatment.	Stationary.
Infantile Paralysis	27	...	23	2	1	...	1
Spastic Paralysis	9	...	7	2	...	...	...
Birth Palsy	1	...	1	...	...	...	...
Deformities—							
Congenital	24	8	13	1	...	2	...
Traumatic	6	4	2	...	...	...	...
Other...	8	3	5	...	...	...	...
Rickets	58	34	7	15	...	1	1
Inflammations—							
Arthritis	3	...	3	...	...	...	...
Ankylosis	1	...	1	...	...	...	...
Osteomyelitis	4	...	4	...	...	...	...
Tumours—							
Sarcoma	...	...	...	...	...	...	...
Exostosis	2	...	1	...	...	1	...
Chondroma	1	...	...	...	...	1	...
Pyaemia	1	...	1	...	...	...	...
Totals	145	49	68	20	1	5	2

At the 31st December, 1927, some of the above patients were still resident in Hospital.

STATISTICS OF MEDICAL TREATMENT.

The following tables show the amount of treatment which has been obtained during 1927. The kind of treatment and the results are also specified.

The first set of tables gives this information about those children who were examined at the routine medical inspection immediately preceding, *i.e.*, in general, those children whose medical inspection took place in 1926.

TREATMENT OF DEFECTS.

New Cases.

Disease or Defect.	Number of Children.							
	Referred for Treatment.	Treated.			Result.			
		Under Authority's Scheme.	Otherwise.	Total.	Cured.	Improved.	Unchanged	No Information.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	111	37	67	104	94	7	5	5
Ringworm—Body ...	36	7	27	34	32	2	1	1
Scabies	16	8	8	16	15	1	...	...
Impetigo	322	61	252	313	301	9	4	8
Minor Injuries ...	8	3	5	8	8	...	...	...
Other Skin Disease ...	214	38	144	182	137	36	15	26
Ear Disease	556	124	247	371	185	171	113	87
Eye Disease (external and other)	397	109	203	312	215	89	60	33
Dental Disease	2110	356	731	1087	488	599	566	457
Other Diseases	1467	188	667	855	403	432	295	337

TREATMENT OF VISUAL DEFECT.

Number of Children.												
Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No information.
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.				
2568	1222	172	356	1750	1127	455	1078	367	72	55	96	818

TREATMENT OF DEFECTS OF NOSE AND THROAT.

Referred for Treatment.	Number of Children.				No information.
	Received Operative Treatment.			Received other forms of Treatment.	
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
1228	385	190	575	89	564

The following set of tables gives similar information about those children who were recommended to obtain treatment at any inspection prior to the last :—

TREATMENT OF DEFECTS.

Old Cases.

DISEASE OR DEFECT.	NUMBER OF CHILDREN.							
	Referred for Treatment.	Treated.			Result.			
		Under Authority's Scheme	Otherwise.	Total.	Cured.	Improved.	Unchanged	No Information.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	34	1	25	26	21	3	5	5
Ringworm—Body ...	2	...	2	2	2	...	...	...
Scabies	4	...	4	4	4	...	...	...
Impetigo	35	2	32	34	34	1	...	...
Minor Injuries ...	1	...	1	1	1	...	...	...
Other Skin Disease ...	42	7	26	33	24	6	3	9
Ear Disease	214	33	79	112	70	22	72	50
Eye Disease (external and other)	86	9	49	58	27	24	15	20
Dental Disease	604	68	194	262	45	213	167	179
Other Diseases	452	20	160	180	74	106	91	181

TREATMENT OF VISUAL DEFECT.

Referred for Refraction.	NUMBER OF CHILDREN.											
	Submitted to Refraction.				For whom Glasses were prescribed.		For whom Glasses were obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No information.
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.				
586	127	45	184	356	116	201	113	142	11	10	28	230

TREATMENT OF DEFECTS OF NOSE AND THROAT.

Referred for Treatment.	NUMBER OF CHILDREN.				
	Received Operative Treatment.			Received other forms of Treatment.	No information.
	Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
407	55	66	121	20	266

OPEN-AIR EDUCATION.

No special Open-air Schools exist in the Authority's area, but in warm weather many classes, especially in the Infant Departments, are taken outside. The Municipal Borough of Nelson are establishing a Special Open-air School for delicate children, and the Lancashire Education Committee have undertaken to send suitable children to that school when it is established.

The whole question of the provision of Special Open-air Schools for ailing and delicate children is at present under consideration, and the County Medical Officer has been instructed to prepare a full report for the Committee's consideration.

PHYSICAL TRAINING.

The physical training is, as described in previous Reports, under the general supervision of the County Medical Officer and his staff. In the Secondary Schools the teaching of physical exercises, including gymnasium work, is done by trained specialists. In the Elementary Schools the class teachers who have been trained at College in physical exercises, undertake the routine drill and exercises of bodily movements prescribed in the Board of Education's Syllabus.

During the year the Inspector of Physical Exercises visited 372 Schools (394 Departments) and inspected the children in physical exercises and organised games. In addition, he attended the Leyland Balshaw's Grammar School on 41 occasions and instructed the pupils in physical exercises.

Grants in aid of organised games have been made by the Elementary Sub-Committee of the Education Committee for the past eight years, the amount of the grants having steadily increased.

In spite of the unsuitable weather which has interfered so largely with out-door games during the past year, the movement in favour of Organised Games in the schools continues to extend, and it is interesting to note the efforts which are being made by schools even in the most remote portions of the County area to share in this branch of out-of-school activities. The table given below shows some indication of the growth in the number of Organised Games Associations since they were first established in 1920–21, but it is necessary to add that in addition to the numbers given, there are various Associations which do not ask for assistance from the Education Committee, as they are not only self-supporting, but in some cases are able to make contributions to Local and National Charities. These Associations depend for their income largely on the proceeds of an annual sports day, in which scholars from all the Associated Schools take part. It will be remembered also that the Committee's Regulations only allow of a grant equal to half the expenditure in any year, with a maximum of £50, so that considerable sums must be raised by the teachers from voluntary sources in those cases where the Associations are in receipt of grants.

Year.	No. of Associations.	No. of Schools in the Associations.
1920–21	4	27
1921–22	7	42
1922–23	17	146
1923–24	16	134
1924–25	15	105
1925–26	22	142
1926–27	27	209
1927–28	34	238
Applications for grants 1928–29	32	225

Interest in the work of the Associations appears to be still advancing ; the number of trophies given by sympathisers is increasing, and it is specially interesting to note the references to the help given by local sports clubs. Members of the Local Committees, Managers of Schools, and the District Clerks continue to help the Associations in every way, whilst the very ready assistance given freely by a large number of teachers is greatly appreciated.

Lack of playing fields is still the chief obstacle in the way of the successful working of the Associations, but the difficulty appears to have been less than in previous years.

The following table shows the Associations to which grants are given :—

District No.	Name of Association.	No. of Schools or Depts.
1	Leven and Crake Valleys	8
1	High Furness Rural	7
2	South Lonsdale Schools	12
3	Garstang and District Schools Games	14
4	Thornton Elementary Schools Games	5
4	Fleetwood Elementary Schools Games	5
7	South Ribble Elementary Schools Games Fed.	29
9	Paddock Association for Organised Games	7
10	No. 10 District	5
11	No. 11 Area Organised Games	7
12	No. 12 Area Organised Games	8
14	Adlington Schools' Sports	3
19	Upholland and Orrell Elementary Schools' Sports	6
19	Ashton-in-Makerfield Schools' Sports	4
19	Abram, Bryn Gates, and Stubshaw Cross...	3
21	Westhoughton Schools' Athletic	12
22	Kearsley, Little Hulton and Little Lever	12
26	Littleborough and Smallbridge Day Schools' Games	10
26	Whitworth Schools' Games	5
26	Milnrow School Games	5
26	Norden School Games	4
30	Haydock Schools' Sports	4
30	Makerfield Schools' Sports	6
30	Penketh and Great Sankey	2
30	Warrington and District Teachers'	2
31	Atherton Schools' Athletic	9
31	Tyldesley	10
32	Makerfield Association (Section)	2
32	Culcheth Risley Council School	1
33	Urmston and Flixton District Schools' Athletic	6
33	Irlam and Cadishead Schools' Sports	6
34	Worsley and District	6
35	Denton	5
		230

Swimming.

The organisation of instruction in swimming is undertaken by the Elementary Department. The table given below shows the progress made during recent years :—

Year.	No. of Districts receiving Grant.	No. of Departments taking part.
1923–24	7	35
1924–25	12	62
1925–26	14	87
1926–27	18	110
1927–28	19	116
Applications for grants, 1928–29	19	111*

* This figure does not include the schools in the Westhoughton area, to which reference is made in the table given below.

Enthusiasm in this important branch of training continues to increase, in spite of the difficulty which is found by many schools owing to the lack of swimming baths in many parts of the County. It is frequently found necessary to arrange for attendance at the baths in some neighbouring Borough, and a special note should be made of the help given by many Borough Authorities to the children from County schools. The charge frequently includes not only admission to the baths but the help of the Borough attendants and instructors. There is no falling-off of local interest. In one case certificates for progress in swimming are provided at the cost of local sympathisers, and in a number of others the prizes at the swimming galas are given by members of Local Committees or the Managers of Schools.

Owing to the large demands on the baths, it is often necessary for tuition in swimming to be given outside of school hours. The time is freely given by the teachers, who also take land drill and give instruction in life-saving methods as part of the physical exercise lessons.

An interesting incident is told in one of the reports with respect to last year's instruction. Two small children were playing on the banks of the Rochdale Canal and one of them fell into the water. Fortunately, two older boys from the same school were passing. These boys had attended the baths and the older one threw off some of his clothes and jumped in. He was successful in bringing the smaller child to the bank, where the other boy assisted in lifting the child out of the water. It is perhaps worthy of note that it was only in casual talk some days afterwards that the story came out.

The following table shows the Schools and Districts to which grants are made :—

District No.	School or Area.	No. of Schools or Depts.	Baths to be attended.
2	Nether Kellet Council	1	Lancaster
2	Yealand Redmayne, Yealand Conyers C.E ...	1	Do.
4	Fleetwood	5	Fleetwood
4	Thornton	2	Do.
5	Kirkham and District	7	Kirkham
7	North Meols, Banks P.M.	1	Southport
10	Salesbury	1	Blackburn
10	Livesey, Cherry Tree C.E.	1	Do.
10	Belthorn Ind. Chapel	1	Do.
11	Brierfield & District	7	Burnley
12	Barrowford & District	6	Nelson and Colne
13	Padiham & District	9	Burnley
14	Withnell, Brinscall Wesleyan ...	1	Withnell
14	Withnell St. Joseph's R.C. ...	1	Do.
14	Withnell C.E.	1	Do.
14	Withnell Fold Wesleyan	1	Do.
14	Withnell United Methodist ...	1	Do.

District No.	School or Area.	No. of Schools or Depts.	Baths to be attended.
14	Anderton St. Joseph's R.C.	1	Withnell
14	Adlington C.E.	1	Do.
14	Adlington St. Paul's C.E.	1	Do.
14	Anderton, Adlington & District C.	1	Do.
16	Ormskirk United Charity Boys'	1	Southport
21	Westhoughton	...	Westhoughton
22	Little Hulton St. Edmund's R.C.	1	Farnworth
22	Little Hulton St. John the Baptist	1	Do.
22	Little Hulton East Council	1	Do.
22	Kearsley West Council	1	Do.
23	Walmersley-cum-Shuttleworth, Buckhurst	1	Bury
25	Whitefield & District	1	Radcliffe
26	Littleborough Central Council	1	Rochdale
26	Littleborough, Dearnley C.E.	1	Do.
26	Milnrow, Moorhouse Council	1	Do.
26	Milnrow C.E.	1	Do.
26	Norden, Bagslate Council	1	Do.
26	Norden, Bagslate Wesleyan	1	Do.
26	Whitworth, Leavengrave Council	1	Bacup
26	Wardle Smallbridge C.E.	1	Rochdale
28	Litherland R.C.	1	Bootle
28	Litherland St. Phillip's C.E.	1	Do.
28	Litherland Lander Road Council	1	Do.
28	Litherland Beach Road Council	1	Do.
28	Litherland St. Elizabeth's R.C.	1	Do.
30	Poulton-with-Fearnhead, Padgate C.E.	1	Warrington
30	Winwick Orford C.E.	1	Do.
30	Great Sankey Council	1	Do.
30	Penketh Council	1	Do.
30	Newton-in-Makerfield, Earlestown Central Council Boys'	1	Do.
30	Newton-in-Makerfield, Earlestown Central Council Girls'	1	Do.
30	Newton-in-Makerfield St. Peter's	1	Do.
30	Newton-in-Makerfield, Newton-le-Willows St. Mary's R.C.	1	Do.
30	Newton-in-Makerfield, Wargrave C.E.	1	Do.
30	Haydock Rd. Evans	1	St. Helens
30	Haydock Colliery	1	Do.
30	Haydock R.C.	1	Do.
30	Haydock C.E.	1	Do.
31	Atherton Bag Lane C.E. (M.)	1	Atherton
31	Atherton, Chowbent	1	Do.
31	Atherton, Hindsford C.E.	1	Do.
31	Atherton Howe Bridge C.E.	1	Do.
31	Atherton Lee Street Undl.	1	Do.
31	Atherton St. Richard's R.C.	1	Do.
31	Atherton, Hindsford St. James' R.C.	1	Do.
31	Atherton C.E.	1	Do.
31	Atherton Bolton Road (M.)	1	Do.

District No.	School or Area.	No. of Schools or Depts.	Baths to be attended.
31	Tyldesley-cum-Shakerley, ... Tyldesley Council (B.)	1	Tyldesley
31	Tyldesley-cum-Chakerley, Boothstown R.C.	1	Do.
31	Tyldesley-cum-Shakerley Booths-... town Wesleyan	1	Do.
31	Tyldesley-cum-Shakerley, ... Tyldesley Central C.E.	1	Do.
31	Tyldesley-cum-Shakerley, Mosley... Common C.E.	1	Do.
31	Tyldesley-cum-Shakerley Upper ... George Street Council	1	Do.
31	Tyldesley-cum-Shakerley C.E. ... Boys'	1	Do.
31	Tyldesley-cum-Shakerley C.E. ... Girls'	1	Do.
31	Astley C.E. (M.)	1	Do.
31	Astley, Marsland Green	1	Do.
35	Audenshaw Wesleyan	1	Openshaw
35	Failsworth Holy Trinity	1	Newton Heath
35	Failsworth St. Mary's R.C. ...	1	Do.
35	Denton Central Council	1	Hyde
35	Failsworth Minor Street C. Boys'...	1	Newton Heath
35	Failsworth Minor Street C., Girls'...	1	Do.
35	Audenshaw Poplar Street C. ...	1	Openshaw
35	Denton Haughton Green C.E. ...	1	Hyde
35	Failsworth C.E.	1	Newton Heath

CO-OPERATION OF PARENTS.

During the year the Medical Officers interviewed 4,974 parents in schools and visited 766 homes, whilst the Nurses interviewed in school 1,659 parents and visited 15,249 homes ; 89,364 attendances were made by children at Child Welfare Centres, each one representing an interview of a parent with either Doctor or Nurse.

In addition, the Nurses paid 84,561 visits to the homes of young children, infants or expectant mothers. The opportunities thus shown for interviews with parents are frequent, and there is, at the present time, scarcely any of the hostility which was not uncommon in the early days of School Medical Inspection.

CO-OPERATION OF TEACHERS.

The vast majority of the teachers are intimately acquainted not only with the mental and physical peculiarities of their pupils, but also with their home conditions, economic and social. This is one of the advantages of small towns or villages, where everybody knows everybody else, and the information thus available for the use of the Medical Officer is used to the best advantage.

In addition to the assistance given at the actual inspection and in the following-up of cases, the Head Teacher frequently gives valuable advice as to alterations in structure or equipment of his school, and his interest in the cleanliness and sanitation of the building is stimulated by the knowledge that he can always have an informal talk on these subjects with the Medical Officer.

CO-OPERATION OF SCHOOL ATTENDANCE OFFICERS.

This was fully described in the Annual Report for 1926.

The following table shows some of the figures relating to the School Attendance Officers' duties in 1927 :—

No. of interviews with Medical Officers	985
No. of interviews with School Nurses	1,485
No. of visits to homes, arising out of Medical Inspection ...	1,345
No. of cases specially presented to the Medical Officers and School Nurses	1,934

CO-OPERATION OF RATE-AIDED AND VOLUNTARY BODIES.

Valuable assistance in securing treatment of all kinds for children who would not otherwise receive it continues to be rendered by the Poor Law Guardians and Voluntary Bodies. In previous reports the valuable work done by such bodies as the United Charities of Upholland, the Atherton Guild of Help, the Failsworth Children's Clothing and Foot Wear Fund, and others has been given in full detail.

The Medical Officers and Nurses in the course of their routine work endeavour to take the broadest possible view of their duties, and are not satisfied to content themselves merely with the discharge of their statutory obligation.

In the first place, they consider the education of the parent as the most important of the numerous steps to be taken in securing treatment of the defects of any individual child. To this end it is necessary that the medical officer or nurse shall secure the confidence of the parent. The daily practice of a policy of this nature throughout the County has led to happy relationship between the parents and children on the one hand and the members of the staff on the other. Whereas at the commencement of school medical inspection the Medical Officers and Nurses when they visited a school were regarded frequently by the parents as interfering busybodies whose purpose was largely to harass and annoy them, to put them by coercion to trouble and expense, and to subject their children to unnecessary surgical and medical interference, now the parents and the children look on the members of the staff as their friends, and welcome their visit to the school or district ; they realise that the members of the staff have the well-being of the children sincerely at heart and know that they will conscientiously deal with the individual children.

It is on record that a medical officer paying a re-visit to a school was two days in the building before he could examine a single child in it, for the parents in the district whose children attended other schools, or were absent from other schools, came in such numbers for assistance and advice that it required two days to deal with them.

The children who need specific medical treatment are quickly and easily dealt with ; they are referred to their family doctor, or, if the circumstances of the family are necessitous, they are dealt with through one or other of the County Schemes.

The principle that "prevention is better than cure" is behind all the medical treatment recommended. It is no use providing for a child expensive specialist treatment if the conditions which produced the defect are to be allowed to continue to operate and lead to a recurrence or to the development of similar trouble in younger members of the family.

The treatment of these adverse conditions and circumstances is not "specific medical treatment," and is not provided by the family doctor or through the Committee's Schemes. In large part it necessitates the education of the parents in hygiene, physiology, dietetics and food values, remedial gymnastics, with a common-sense non-technical explanation and attitude.

Most of the children in need of "specific medical treatment" require in addition, and urgently, non-medical commonsense treatment of this nature.

A very large number of children are found by the staff at their examinations, or are brought by the parents for advice, who require this non-specific treatment. The observation and experience of a number of years have shown that these children if they fail to receive this help, will qualify sooner or later for medical treatment through the service of the Medical Department or of the Tuberculosis Committee.

Unhealthy conditions and habits of life, malnutrition from improper feeding, lack of fresh air and sunshine, debility the sequel of acute illness, defective clothing and footgear, insufficient sleep and exercise, combine in a number of instances to produce a condition of subnormal health which is the forerunner of more serious illness. The "delicate" or pretubercular child, thin, grossly overclad with poor-quality garments, and not infrequently shod with defective footgear, is met with daily by members of the staff.

To turn the child right about face and set his feet upon the road to health requires assistance not provided for by public action. The whole-hearted intelligent co-operation of the parent is a *sine qua non*. To secure this necessitates the expenditure of much more time and energy than is required for the treatment of several cases of tonsils and adenoids, defective vision, or minor ailment. Often it requires several patient explanatory interviews and talks. Beyond the co-operation of the parent, assistance is usually required from more than one outside source or voluntary agency. Maybe insanitary conditions in the home call for a note to the local Medical Officer of Health or Clerk or Inspector to the local Sanitary Authority, or the owner of the property. Sometimes the family to which the child belongs is occupying one or two rooms in lodgings in an already overcrowded house ; a recommendation for the tenancy of a separate dwelling on medical grounds by the Assistant County Medical Officer has frequently obtained a healthy dwelling for a whole family as a consequence of the subnormal health of one child member.

A note from the Medical Officer to the Clerk to the Guardians or the Relieving Officer suggesting the provision of extra nourishment or special nourishment for the child on purely medical grounds has never failed to receive sympathetic consideration. Furthermore, such a case will probably require clothing and footgear, and usually, to reverse the progression into ill-health, a change of air and holiday, with good food and regular hours of exercise and sleep in a Convalescent Home is called for.

The treatment of one such child may therefore necessitate :—

(1) One or several educational talks to the parent.

(2) A reference to the family doctor for the treatment of anæmia, or bronchitis, or rheumatism, or chorea, or similar defect.

(3) Almost invariably an appointment with the dentist.

(4) A note to the Medical Officer of Health, or Clerk to the Local Sanitary Authority to assist in obtaining remedy for a defect in the dwelling, or the tenancy of a house.

(5) A note to Relieving Officer or Clerk to the Guardians for provision of special nourishment or admission to Cottage Homes.

(6) Note to local Secretary of the British Legion, United Services Fund, local charity, local clergyman or philanthropic individual, or to the employers of parent, to secure clothing, footgear, or admission to a Convalescent Home.

This involves a considerable amount of clerical work, the expenditure of much time and patient effort, and involves a close and friendly co-operation with the various agencies referred to. But it is time and effort well spent, for it is spent in the prevention that is better than cure. To cure an obvious defect is, generally speaking, more easy, rapid, and spectacular than to prevent the defect developing, and calls for greater effort, more time, and more continuous effort, and the result is not spectacular nor so immediately and readily apparent. Its results do not appear in any schedule of medical inspection or treatment, nor in any statistical tables.

It is through the valuable assistance rendered by the various agencies referred to that the Medical Officers are enabled to undertake the restoration to health of children in the foregoing category. An enumeration of all the agencies at work in the County would call for a lengthy list. In general they can be grouped into four classes :—

1.—Rate-aided institutions.

2.—Endowed Charities.

3.—Organised Societies.

4.—Private individuals.

1.—The main burden of providing relief, extra or special nourishment, hospital and medical treatment and travelling expenses for the necessitous poor, falls upon the Poor Law Guardians.

The co-operation between the Assistant County Medical Officers and the Clerks to the Guardians and Relieving Officers is cordial.

Cases recommended by the Assistant County Medical Officers on medical grounds are usually considered sympathetically by the Guardians, even when the circumstances of the family would not ordinarily admit of a relieving grant.

The Medical Officers do not recommend cases indiscriminately, but select their cases with care, and in no case has application for assistance been refused, so far as it has been possible to provide it.

The scope of the Guardians' activities is universal and the amount of assistance rendered in the aggregate throughout the County is considerable.

2.—A large number of Endowed Charities exist throughout the County.

The activities of the United Charities of Upholland have been referred to in detail in the report for the year 1923. Their assistance has continued on an increasing scale throughout the period of increasing necessity. No child in need, in the area of their activity, will lack necessary provision of any sort if the Secretary, who is School Attendance Officer, is aware of the circumstances.

The Atherton Guild of Help continues to provide assistance as detailed in the Report for 1921.

In Newton-with-Scales, the John Hornbie Charity provides for the free education, housing and feeding of the children of poor parents. At present, 20 children are provided with dinner every day.

The Peter Lathom Charity provides assistance over a large area round Ormskirk and between Ormskirk and Wigan.

The John Pepplewell Trust provides assistance for poor children in Blackrod, principally in food and clothing.

The Shevington United Charities spend money in the district for all charitable purposes.

Johnson's Charity in Coppull feeds and clothes the poor and needy.

In Rivington a charity of ancient foundation spends over £400 in relief of different kinds. This charity was founded in the 15th century, when the sum of 20 nobles was bequeathed for this purpose. These 20 nobles now produce a sum of over £400 per annum. In this district also Lowe's Charity provides a smaller sum for similar purposes.

Other Endowed Charities afford valuable help to the medical staff.

3.—Organised Societies provide relief and assistance of different kinds in almost all areas; generally speaking, the better organised districts make better use of voluntary relief than the scattered or backward communities.

The United Services Fund has a large amount of money at its disposal for the relief and assistance of ex-Service men and their dependants. Many children are recommended to the Fund by the Medical Officers and Nurses, principally for Convalescent Home Treatment and the provision of other facilities. The amount of treatment and assistance provided by this fund throughout the County is very considerable indeed, and the nature of the provision extremely valuable, indeed in many cases indispensable.

The National Society for the Prevention of Cruelty to Children works persistently and regularly throughout the whole County in the manner which has been repeatedly referred to. Co-operation between members of the Staff and the Society is cordial.

Many districts have Ladies Welfare Committees, who collect sums of money by voluntary means and expend it in assisting the sick and poor.

The St. Helens Invalid Children's Aid Society has provided much valuable assistance to County children out of their voluntary funds, and maintained many in Convalescent Homes.

The Fleetwood Ladies Committee has similarly aided many cases, and relieved distress and necessity.

The Audenshaw Ladies Benevolent Guild provides food and medical comforts for the sick and poor and a Christmas treat.

The Droylsden C.W. Guild of Help, similarly.

The Failsworth Clothing and Footwear Fund has been referred to in detail in previous Reports.

Many other similar organisations exist throughout the County, and administer voluntary funds in a similar manner. In the aggregate, the good work they do is considerable.

Throughout the County the Police Fund can always be relied upon to provide assistance to poor children.

Here and there throughout the County several funds exist, consisting of the balance or remainder of Funds raised for special purposes, and now frequently vested in a local committee or in the name of the Chairman of the Council and administered locally for various charitable purposes.

The Save the Children Fund, organised by the National Union of Teachers, provided much assistance for children during the coal dispute.

Among other organised societies providing assistance may be mentioned Friendly Societies, Trades Unions, Religious Bodies, the St. Vincent de Paul Society, the Salvation Army, and many Church Funds.

4.—Private Individuals. Contributions for the relief of distress from private individuals vary naturally with the different areas. In general, it may be said that in many districts the Medical Officers and Nurses know of private individuals to whom they can apply for assistance in necessitous cases, where other means are not available.

Much valuable work is done personally by the School Teachers, School Attendance Officers and Health Visitors. In some districts each school has a Teachers Fund, to which the members of the staff subscribe, which is applied for the relief and assistance of their own school children as occasion demands.

BLIND, DEAF, DEFECTIVE, AND EPILEPTIC CHILDREN.

The methods and policy of the Committee for ascertaining and dealing with children who are defective within the meaning of the Elementary Education (Blind and Deaf Children) Act, 1899 and 1914, are unchanged and have previously been described.

Blind Children.

The number of children on the Special Register who were considered as blind children in the year 1927 was 77 boys and 64 girls. Of these, 18 boys and 18 girls were totally blind, and 59 boys and 46 girls had some residual vision.

Attending Certified Schools or Classes for the Blind were 23 boys and 27 girls. During the year 23 blind children were reported on, and in the following table the causes of blindness are reported as :—

Nystagmus	4
Ophthalmia Neonatorum	3
Congenital	3
Congenital Cataracts	3
Corneal Opacities	2
Progressive Myopia	3
Tumour	1
Retinitis Pigmentosa	1
Optic Atrophy	1
Choroiditis	1
Inflammation	1
	23

The number of children of Elementary School age who were maintained in 1927 at the following Institutions for the Blind was 23 boys and 27 girls. The annual cost of maintenance was £3,028 10s., or an average cost of £60 11s. 5d. a child.

	Boys.	Girls.	Total.
Burnley Blind School	–	1	1
Catholic Blind Asylum, Liverpool ...	1	4	5
Homes for the Blind, Fulwood ...	7	4	11
Liverpool School for the Blind ...	3	4	7
Oldham Blind School	1	–	1
Royal Normal College, London ...	–	1	1
Thomasson Memorial School, Bolton	2	3	5
Henshaw's Institution, Manchester ...	9	8	17
Sunshine Home, Southport	–	2	2
	23	27	50

Deaf Children.

On the Register for 1927 there were 100 boys and 70 girls, of whom 47 boys and 40 girls were totally deaf, and 53 boys and 30 girls had residual hearing. Of all these 170 children, there were in attendance at the Special Certified Schools or Classes for the Deaf 52 boys and 40 girls, as shown below. The annual cost of maintenance was £6,427 10s., or an average cost of £69 17s. 3d. a child.

	Boys.	Girls.	Total.
Burnley Deaf School	2	1	3
Liverpool School for the Deaf... ...	4	3	7
Oldham Deaf School	–	2	2
Royal Schools for the Deaf, Manchester	25	21	46
St. John's Institution, Boston Spa ...	2	2	4
Thomasson Memorial School, Bolton...	4	4	8
Royal Cross Schools for the Deaf, Preston	15	6	21
Royal Institution for the Deaf and Dumb, Edgbaston	–	1	1
	52	40	92

During the year 17 deaf children of Elementary School age were reported on, and the following causes of their deafness are shown :—

Congenital	7
Meningitis	4
Nerve	3
Otitis Media	2
Catarrh	1
	17

The importance of sending these cases for special training at the earliest age, at four if possible, cannot be sufficiently impressed on parents and teachers ; time lost at the beginning can never be recovered.

EPILEPTIC CHILDREN.

On the Register there are noted 141 boys and 78 girls as suffering from Epilepsy, of whom 56 are severe and 163 not severe. Four of these children are maintained at Institutions for Epileptics, at a cost of £280 16s., or an average cost of £70 4s. a child.

MENTALLY DEFECTIVE CHILDREN.

There were, in 1927, 423 children noted in the Elementary Education Area as being feeble-minded, viz., 268 boys and 155 girls. In addition, there were notified to the Local Control Authority, in this case the Lancashire Asylums Board, 5 feeble-minded children, 16 imbeciles, and 5 idiots as being ineducable.

Dr. Gladys H. Hutchinson, Assistant County Medical Officer, has contributed an interesting short article on this subject, which appears later in this Report.

SECONDARY, CONTINUATION, AND TECHNICAL SCHOOLS.

The medical inspection of the pupils in attendance at Secondary, Continuation, and Technical Schools was commenced on 1st September, 1920, and is confined to those schools provided by or wholly financed by the Committee.

At the present time there are 46 schools, consisting of 39 Secondary Schools, 3 Technical Schools, and 4 Continuation Schools in which medical inspection is conducted.

The girls attending these schools are medically examined by a woman Medical Officer. The boys are examined by the male Medical Officers, each Assistant County Medical Officer being responsible for the inspection of the boys of the schools within his own area, and also in the adjoining areas in those cases where the Medical Officer in charge is a woman.

The medical staff have again received the whole-hearted co-operation of most of the teachers, and also of the parents of those pupils who required treatment.

METHOD OF INSPECTION.

The methods of inspection were described in detail in previous Annual Reports, and they need not be repeated here.

In the following table the pupils attending these schools are shown in two groups, *i.e.*, those attending Secondary Schools and those attending Technical and Continuation Schools. The table shows the number of pupils examined during 1927 in the various age groups :—

Age.	Secondary Schools.		Technical and Continuation Schools.	
	No. of Pupils examined.		No. of Pupils examined.	
	Boys.	Girls.	Boys.	Girls.
8	28	5	...	...
9	56	10	...	...
10	197	91	...	...
11	671	303	...	...
12	1,040	576	11	...
13	1,116	656	92	2
14	1,055	590	157	139
15	867	477	143	99
16	420	252	105	1
17	211	189	21	...
18	46	123	...	...
19	6	38	...	...
TOTALS	5,713	3,310	529	241

Number of Pupils re-examined—

Secondary Schools	1186
Technical and Continuation Schools	43

Number of Parents interviewed—

Secondary Schools	696
Technical and Continuation Schools	27

The following table shows the work done in Secondary, &c., Schools by the Medical Officers at visits other than routine visits :—

No. of schools re-visited	89
No. of re-visits paid to schools	105
No. of children examined at re-visits	1644
No. of children recommended for specific medical treatment	446
No. of parents interviewed at school	114

FINDINGS OF MEDICAL INSPECTION.

The following tables show the results of the routine medical inspection. All "Entrants" and all pupils of twelve years of age and over are examined each year.

SECONDARY SCHOOLS.

			Boys.							*Girls.*						
			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
	No Examined		952	1040	1116	1055	867	420	263	409	576	656	590	477	252	350
	Children having Defects		47·7	47·8	41·8	40·8	43·0	43·3	44·1	66·7	71·9	71·9	68·9	75·7	69·4	64·0
Mental Condition.	Dull and Backward	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	0·09	...	...	...	...	...	...	...	...	...	...	...
	Feeble-minded	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imbeciles	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Idiots	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Malnutrition	T	...	0·09	...	...	0·1	...	...	0·2	0·3	...	...	...	...	...
		O	0·7	0·3	0·3	0·09	...	0·2	...	1·7	0·2	1·1	0·7	0·2	...	...
Unclean-liness.	Head	T	...	...	...	...	...	...	...	...	...	...	0·2	...	...	...
		O	0·1	...	...	...	...	...	...	5·1	4·9	3·0	1·0	0·4	0·4	...
	Body	T	...	0·09	...	...	...	...	...	...	...	...	...	...	...	...
		O	0·3	...	0·09	...	...	...	...	...	...	...	...	...	...	...
Skin. Ring-worm.	Head	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Body	T	...	...	...	...	0·1	...	...	...	...	...	...	...	...	...
		O	...	...	...	0·09	...	...	...	...	...	...	...	...	...	...
	Scabies	T	...	0·2	0·09	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Impetigo	T	...	0·09	0·3	0·09	...	...	...	...	...	...	...	...	...	...
		O	...	0·09	...	...	...	...	...	...	...	...	...	...	...	...
	Other Diseases	T	0·2	0·2	0·3	0·8	0·6	0·7	0·4	0·5	0·5	1·4	0·8	0·8	0·8	0·6
	(Non-Tubercular)	O	0·3	0·4	0·3	0·3	1·0	0·9	3·0	3·2	1·4	3·5	3·2	4·2	7·5	5·1
Eye Diseases.	Defective Vision	SP	4·1	5·9	5·1	4·1	5·1	5·7	6·8	8·8	10·9	9·9	11·0	13·0	15·1	13·7
		O	9·1	9·6	11·1	11·4	12·1	15·9	15·9	13·9	15·3	16·2	16·8	19·3	23·4	26·6
	Squint	T	0·2	0·3	0·3	0·2	0·3	...	...	0·2	0·2	0·1	...	0·4	...	...
		O	1·1	1·0	0·4	0·5	0·5	0·5	...	1·5	1·0	1·2	0·8	0·8	0·8	1·4
	Conjunctivitis	T	0·2	...	0·3	...	0·1	...	0·4	...	...	0·1	...	0·4	...	...
		O	0·4	0·09	0·4	...	0·5	...	0·4	0·2	0·2	...	...	...	...	0·3
	Blepharitis	T	0·3	0·2	0·4	0·09	0·2	0·2	...	0·7	0·2	0·1	...	...	...	...
		O	0·4	0·7	0·2	0·09	0·3	0·5	...	0·2	0·5	0·3	0·3	0·6	...	...
	Keratitis	T	...	...	...	...	...	...	...	...	...	...	0·2	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	0·2	...	...	...
	Corneal Opacities	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Corneal Ulcer	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...

				Boys.							*Girls.*						
				Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Ear Diseases.		Defective Hearing	T	0·5	0·3	0·3	0·09	0·1	...	0·7	1·7	0·3	1·8	1·4	1·7	0·4	0·6
			O	0·6	0·5	0·7	0·3	0·7	0·7	0·4	1·9	1·0	1·2	1·4	1·5	1·2	1·7
		Otitis Media	T	0·1	0·09	0·4	0·4	0·7	1·7	0·4	0·2	0·2	0·1	0·3	0·4	0·4	0·3
			O	...	0·3	0·4	0·3	0·1	...	0·4	...	0·3	...	...	...	...	...
		Other Ear Diseases	T	...	...	0·09	0·09	...	...	...	0·2	0·5	0·5	0·3	0·2	...	...
			O	...	...	...	0·09	...	0·2	0·4	0·2	0·2	0·6	0·2	0·2	...	...
Nose and Throat.		Enlarged Tonsils	T	0·7	1·0	0·7	0·8	0·3	...	...	6·8	7·8	4·7	5·1	3·6	2·0	1·7
			O	6·3	5·7	5·4	4·2	3·2	4·3	2·3	15·1	14·7	17·4	10·0	16·6	14·3	6·3
		Adenoids	T	0·2	0·09	0·09	...	...	...	...	...	0·7	0·3	0·2	...	...	...
			O	0·9	0·4	0·3	0·3	...	0·2	0·4	0·5	0·3	0·1	...	...	...	...
		Enlarged Tonsils and Adenoids	T	0·5	0·7	0·2	0·09	...	0·2	...	0·2	1·0	1·1	0·7	...	...	...
			O	1·2	1·3	0·6	0·5	0·5	0·2	0·7	1·2	0·2	0·1	0·3	0·2	...	0·3
		Enlarged Cervical Glands (Non-Tubercular)	T	...	0·2	0·09	...	...	...	...	0·5	...	0·6	0·3	0·6	...	0·6
			O	3·1	2·9	2·0	1·7	1·7	0·7	0·4	4·4	2·6	3·7	2·2	0·8	1·2	1·4
		Defective Speech	T	...	...	0·09	0·09	...	...	...	...	...	...	...	...	...	...
			O	0·4	0·7	0·7	0·4	0·2	...	...	...	0·2	...	0·2	0·2	...	...
Teeth.		Four or more Carious	T	10·9	9·2	8·4	8·2	9·6	9·8	9·9	8·3	13·5	15·7	15·9	20·5	17·9	10·6
			O	4·8	4·5	3·0	3·1	3·1	2·8	1·5	7·1	3·6	2·4	2·2	2·5	0·8	2·3
		Sepsis	T	0·3	0·09	0·4	0·09	0·3	0·2	0·4	...	0·7	0·6	0·3	...	0·4	0·3
			O	...	0·09	0·09	0·2	...	0·5	...	...	...	...	0·3	0·2	...	...
Heart and Circulation.		Organic	T	...	...	0·09	...	0·1	...	...	...	0·3	...	0·2	...	...	...
			O	0·2	0·3	0·09	0·4	0·8	0·7	0·4	0·5	0·7	0·5	0·7	0·4	0·8	...
		Functional	T	...	...	0·2	0·09	0·1	...	...	...	...	...	...	...	...	...
			O	0·8	1·7	1·3	2·0	2·6	0·9	1·5	1·0	1·7	0·9	0·2	1·0	1·2	1·1
		Anæmia	T	0·2	0·09	0·2	...	...	...	...	1·0	1·5	0·9	1·9	2·7	2·8	2·3
			O	0·5	0·3	0·2	0·3	0·7	0·2	0·4	2·2	2·1	4·1	4·4	4·2	5·6	4·8
Lungs.		Bronchitis	T	...	...	0·2	...	...	0·2	...	...	...	...	...	...	...	...
			O	1·0	1·1	0·8	0·6	0·2	0·5	...	...	...	...	0·2	...	...	...
		Other Non-Tubercular Diseases	T	0·1	...	...	...	...	...	...	1·0	1·4	0·5	...	0·2	...	...
			O	0·4	0·3	0·4	0·2	0·1	...	0·4	1·2	1·4	0·5	1·2	0·2	0·8	0·8
Tuberculosis.	Pulmonary.	Definite	T	...	...	...	...	...	...	...	...	...	...	...	...	0·4	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Suspected	T	...	0·09	...	...	...	...	...	...	...	0·1	0·3	0·2	...	...
			O	...	...	...	...	...	...	...	1·5	0·7	0·3	0·5	0·2	...	0·3
	Non-Pulmonary.	Glands	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	0·2	0·09	0·09	0·09	...	...	...	...	...	...	...	...	...	...
		Spine	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	0·2	...	...	...
		Hip	T	...	...	...	...	...	...	...	...	0·2	...	...	...	...	...
			O	...	...	...	0·2	...	...	...	...	...	...	...	...	...	...
		Other Bones and Joints	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	0·2	0·09	...	...	...	...	...	...	...	...	...	...	...
		Skin	T	...	0·09	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	0·09	...	...	...	...	...	...	...	...	...	...
Nervous System.		Epilepsy	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	0·1	...	0·09	...	0·1	...	...	0·2	0·2	...	...	0·2	...	...
		Chorea	T	...	...	0·09	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	0·2	...	...	...	...	0·2	0·1	0·2	...	...	...
		Infantile Paralysis	T	0·2	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	0·09	...	0·3	0·2	0·4	...	...	0·1	...	...	...	...
		Rickets	T	0·1	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	0·9	0·3	0·09	0·09	...	...	...	0·2	...	0·1	...	...	0·4	0·3
Deformities.		Spinal Curvature	T	0·7	0·9	0·9	0·4	0·3	0·2	1·1	...	0·2	0·3	...	...	...	...
			O	0·3	0·2	0·09	0·6	...	...	0·4	2·7	2·9	1·4	0·8	0·4	0·4	1·1
		Other Forms	T	2·9	2·6	2·4	1·0	1·7	1·2	1·9	0·2	0·7	0·5	0·2	0·2	0·4	...
			O	3·6	3·0	2·5	2·2	2·4	1·4	1·5	1·7	1·4	1·4	0·8	1·3	1·2	0·8
		Other Diseases or Defects	T	0·5	0·6	0·5	0·8	0·1	0·5	0·4	0·2	2·4	0·9	3·9	4·2	2·4	2·3
			O	2·6	1·7	2·2	2·0	1·7	1·2	1·9	1·9	2·9	5·3	5·6	7·8	8·7	7·4

The following table gives a summary of the visual acuity, as determined by the Snellen Test Types, of all the pupils examined :—

SECONDARY SCHOOLS.

Boys.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8 9 11	951	85·1	83·3	5·7	6·7	2·3	2·3	2·7	2·8	1·3	1·8	1·4	1·5	1·0	1·0	0·5	0·5
12	1020	83·1	84·2	5·3	5·3	3·7	3·6	1·9	2·2	2·1	1·7	2·1	1·7	1·2	1·0	0·6	0·3
13	1116	82·3	82·3	5·8	6·5	3·8	3·0	2·3	3·2	1·1	1·3	2·6	1·6	1·1	1·0	1·0	1·0
14	1055	81·4	81·4	6·7	6·6	2·3	2·0	2·3	2·8	2·8	2·2	1·8	3·0	1·4	0·9	1·2	0·9
15	867	80·2	78·4	6·1	7·4	4·0	3·2	3·0	3·2	3·0	2·2	1·1	1·7	1·7	2·3	0·9	1·5
16	420	76·2	77·4	7·4	7·9	4·7	4·0	4·3	4·0	2·9	2·4	2·1	2·6	2·4	1·7	...	...
17 to 19	263	76·0	74·1	7·2	8·7	4·2	3·4	1·9	2·7	4·2	4·2	2·7	1·1	2·7	3·8	1·1	1·9

Girls.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R.	L.
8 to 11	373	73·2	75·9	13·4	11·3	1·6	3·2	2·9	2·9	2·9	0·5	1·3	1·1	1·6	2·7	2·9	2·4
12	576	75·5	75·0	7·6	8·2	4·3	4·3	3·1	3·1	2·6	2·3	2·1	1·2	2·4	3·1	2·3	2·8
13	656	75·1	75·5	7·9	6·7	4·6	3·2	2·4	3·5	2·0	2·4	2·6	2·9	3·2	2·7	2·1	3·0
14	590	71·5	73·7	7·5	8·0	4·6	2·5	3·0	2·7	2·2	2·9	4·1	3·7	3·4	2·5	3·7	3·9
15	477	70·9	68·1	6·1	8·4	4·2	5·0	4·8	3·6	2·7	2·3	4·6	3·3	2·7	5·7	4·0	3·6
16	252	64·3	65·5	7·9	9·1	5·9	5·5	4·0	3·2	2·4	4·8	4·8	4·8	5·9	4·3	4·8	2·8
17 to 19	350	65·4	63·7	8·0	9·4	4·6	4·6	4·6	4·0	4·9	6·9	5·1	4·6	3·7	1·7	3·7	5·1

TECHNICAL AND CONTINUATION SCHOOLS.

The following table shows the results of the routine medical inspection of Technical and Continuation Schools :—

			Boys.							*Girls.*						
			Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
	No. Examined		...	11	92	157	143	105	21	...	...	2	139	99	1	...
	Pupils having Defects		...	63·6	32·6	59·2	39·2	37·1	...	...	...	...	69·8	63·6	...	...
Mental Condition.	Dull and Backward	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Feeble-minded	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Imbeciles	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Idiots	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Malnutrition	T	...	...	...	0·6	0·7	...	...	...	...	...	0·7	2·0	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Uncleanliness.	Head	T	...	...	...	...	...	...	...	...	...	...	14·4	4·0	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Body	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...

				Boys.							Girls.						
				Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Skin.	Ring-worm.	Head	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Body	T	...	...	...	...	...	...	...	...	...	...	...	1·0	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Scabies	T	...	...	...	...	...	...	...	...	...	...	...	1·0	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Impetigo	T	...	...	...	...	0·7	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Diseases (Non-Tubercular)	T	...	...	...	...	...	...	...	...	...	...	1·4	1·0	...	...
			O	...	...	...	0·6	...	...	...	...	...	...	3·6	4·0	...	...
Eye Diseases.		Defective Vision	SP	...	...	2·2	7·0	2·8	2·9	...	...	...	...	7·2	6·1	...	...
			O	...	9·1	3·3	11·5	7·0	6·7	...	...	...	...	12·9	14·1	...	...
		Squint	T	...	...	...	0·6	...	...	...	...	...	...	0·7	...	...	...
			O	...	...	...	0·6	...	0·9	...	...	...	...	2·2	...	...	...
		Conjunctivitis	T	...	...	...	...	...	...	...	...	...	...	0·7	...	...	...
			O	...	...	...	0·6	...	...	...	...	...	...	0·7	1·0	...	...
		Blepharitis	T	...	9·1	...	0·6	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	0·7	...	...	...
		Keratitis	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Corneal Opacities	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	0·9	...	...	...	...	...	...	...	...
		Corneal Ulcer	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ear Diseases.		Defective Hearing	T	...	...	...	0·6	...	...	...	...	...	...	2·2	...	...	...
			O	...	...	...	0·6	1·4	...	...	...	...	...	...	1·0	...	...
		Otitis Media	T	...	...	...	1·3	...	...	...	...	...	...	...	1·0	...	...
			O	...	...	...	...	...	...	...	...	...	...	0·7	...	...	...
		Other Ear Diseases	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Nose and Throat.		Enlarged Tonsils	T	...	...	5·4	1·3	0·7	...	...	...	...	...	7·2	2·0	...	...
			O	...	12	2·2	10·8	7·0	6·7	...	...	...	...	5·8	4·0	...	...
		Adenoids	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	0·7	...	...	...
		Enlarged Tonsils and Adenoids	T	...	...	...	1·3	0·7	0·9	...	...	...	...	...	3·0	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Enlarged Cervical Glands (Non-Tubercular)	T	...	...	...	1·3	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	1·3	2·8	0·9	...	...	...	...	2·2	2·0	...	...
		Defective Speech	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Teeth.		Four or more Carious	T	...	27·3	6·5	9·6	9·1	1·9	...	...	...	...	12·9	22·2	...	...
			O	...	...	1·1	5·1	4·2	5·7	...	...	...	...	2·2	...	...	...
		Sepsis	T	...	...	...	...	0·7	...	...	...	...	...	2·2	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Heart and Circulation.		Organic	T	...	...	1·1	...	...	...	...	...	...	...	0·7	...	...	...
			O	...	...	1·1	...	1·4	...	...	...	...	...	2·2	...	...	...
		Functional	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	9·1	3·3	3·2	1·4	2·9	...	...	...	...	...	...	...	...
		Anæmia	T	...	...	...	...	...	...	...	...	...	...	1·4	2·0	...	...
			O	...	...	2·2	1·3	0·7	0·9	...	...	...	...	1·4	2·0	...	...
Lungs.		Bronchitis	T	...	...	1·1	1·3	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	1·3	3·5	0·9	...	...	...	...	...	...	...	...
		Other Non-Tubercular Diseases	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	1·1	3·2	1·4	2·9	...	...	...	...	0·7	...	...	...
Tuberculosis.	Pul-monary.	Definite	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Suspected	T	...	...	...	...	...	...	...	...	...	...	...	1·0	...	...
			O	...	...	...	...	0·7	...	...	...	...	...	...	...	...	...
	Non-Pulmonary.	Glands	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Spine	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Hip	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Other Bones and Joints	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		Skin	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
			O	...	...	...	...	...	...	...	...	...	...	...	...	...	...

			Boys.							*Girls.*						
			Ages 8-11	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19	Ages 8-11.	Age 12.	Age 13.	Age 14.	Age 15.	Age 16.	Ages 17-19
Nervous System.	Epilepsy	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Chorea	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	Infantile Paralysis	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
	Rickets	T	...	...	...	...	...	...	...	...	...	...	...	...	...	...
		O	...	...	...	0·6	...	...	...	...	...	...	...	1·0	...	...
Deformities.	Spinal Curvature	T	...	...	...	0·6	...	...	...	...	...	...	...	...	...	...
		O	...	...	1·1	...	...	...	...	...	...	...	2·2	5·0	...	...
	Other Forms	T	...	...	...	...	0·7	...	...	...	...	...	...	...	...	...
		O	...	9·1	2·2	0·6	...	...	...	...	...	...	1·4	1·0	...	...
	Other Diseases or Defects	T	...	...	...	1·9	1·4	1·9	...	...	...	...	3·6	...	...	...
		O	...	...	2·2	...	3·5	0·9	...	...	...	...	6·5	4·0	...	...

The following table gives a summary of the visual acuity as determined by the Snellen Test Types :—

TECHNICAL AND CONTINUATION SCHOOLS.

Boys.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L	R	L.	R.	L.	R	L.	R.	L	R.	L
8 to 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	11	81·8	72·7	9·1	18·2	...	9·1	9·1	...	...	...	...	...	...	...	...	...
13	82	89·0	89·0	4·9	3·7	3·7	2·4	2·4	3·7	...	1·2	...	...	...	...	...	...
14	157	77·1	74·5	8·9	10·2	3·8	3·2	3·2	5·1	1·9	2·5	2·5	3·2	1·3	0·6	1·3	0·6
15	143	80·4	86·0	10·5	7·0	1·4	0·7	4·9	2·8	0·7	0·7	1·4	2·1	0·7	0·7	...	...
16	105	81·9	79·0	2·8	9·5	1·9	1·9	4·8	2·8	2·8	0·9	0·9	3·8	1·9	...	2·8	1.9
17 to 19	21	80·9	80·9	4·8	9·5	...	...	9·5	4·8	4·8	4·8	...	...	...	...	...	...

Girls.

Age last Birthday.	Number Examined.	6		9		12		18		24		36		60		0	
		R.	L.	R.	L.	R.	L.	R.	L.	R.	L.	R	L.	R.	L	R.	L.
8 to 11	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
12	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
13	2	100·0	50·0	...	...	...	...	...	50·0	...	...	...	...	...	...	...	...
14	139	74·8	72·6	7·9	11·5	6·5	4·3	2·9	3·6	0·7	2·2	1·4	2·9	3·6	0·7	2·2	2·2
15	99	70·0	69·0	14·0	11·0	4·0	5·0	3·0	8·0	1·0	2·0	4·0	1·0	1·0	1·0	2·0	2·0
16	1	...	...	100·0	100·0	...	...	...	...	...	...	...	...	...	...	...	...
17 to 19	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...

Treatment.

The facilities which are available for the treatment of children attending the Elementary Schools have not been formally extended to the pupils of Secondary Schools, but, in fact, they are available for all children whose parents are not in a position to obtain the necessary treatment elsewhere.

The teachers have again been most helpful in procuring treatment for defects, and their co-operation in this as in most of the other sides of medical inspection has been of great assistance to the Medical Officers.

The following tables show in summary form the amount, kind, and results of the treatment obtained during the year.

The first set of tables gives this information in regard to those pupils who were examined at the previous medical inspection (" new cases "):—

SECONDARY SCHOOLS.

Treatment of Defects.

New Cases.

Boys.

Disease or Defect.	Number of Pupils.							
	Referred for Treatment. 1	Treated.			Result.			
		Under Authority's Scheme. 2	Otherwise. 3	Total. 4	Cured. 5	Improved. 6	Unchanged 7	No Information. 8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	1	...	1	1	1	...	...	...
Impetigo	8	...	8	8	8	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	25	...	20	20	16	3	1	5
Ear Disease	49	2	35	37	17	13	11	8
Eye Disease (external and other)	23	...	23	23	22	1	...	...
Dental Disease	459	16	258	274	180	56	81	142
Other Diseases	315	13	228	241	117	108	32	58

Girls.

Disease or Defect.	Number of Pupils.							
	Referred for Treatment. 1	Treated.			Result.			
		Under Authority's Scheme. 2	Otherwise. 3	Total. 4	Cured. 5	Improved. 6	Unchanged 7	No Information. 8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	1	...	...	...	...	...	...	1
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	16	...	11	11	9	1	1	5
Ear Disease	37	...	23	23	5	12	11	9
Eye Disease (external and other)	8	...	8	8	2	3	3	...
Dental Disease	555	...	327	327	98	217	88	152
Other Diseases	161	4	104	108	32	63	16	50

Treatment of Visual Defect.

	Number of Pupils.												
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were Obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No Information.
		Under Authority's Scheme—Clinic, or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.				
Boys	278	48	120	34	202	48	150	48	150	3	3	1	76
Girls	319	49	128	78	255	49	198	48	192	7	6	1	64

Treatment of Defects of Nose and Throat.

	Number of Pupils.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Infomation.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	53	3	21	24	2	27
Girls	154	7	29	36	35	83

TECHNICAL AND CONTINUATION SCHOOLS.

Treatment of Defects.

New Cases.

Boys.

Disease or Defect.	Number of Pupils.							
	Referred for Treatment. 1	Treated.			Result.			
		Under Authority's Scheme. 2	Otherwise. 3	Total. 4	Cured. 5	Improved. 6	Unchanged 7	No Information. 8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Seabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	1	...	1	1	1	...	...	...
Ear Disease	1	...	...	...	...	...	1	...
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease	43	2	8	10	6	4	8	25
Other Diseases	16	5	4	9	3	6	...	7

Girls.

Disease or Defect.	Number of Pupils.							
	Re-ferred for Treat-ment.	Treated.			Result.			
		Under Authority's Scheme	Other-wise.	Total.	Cured.	Im-proved.	Un-changed	No Infor-mation.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	2	...	1	1	1	...	...	1
Ear Disease	6	...	4	4	2	...	2	2
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease	23	1	4	5	1	3	3	16
Other Diseases	12	1	2	3	...	3	4	5

TREATMENT OF VISUAL DEFECT.

	Number of Pupils.												
	Referred for Refrac-tion.	Submitted to Refraction.				For whom Glasses were Pre-scribed.		For whom Glasses were Provided.		Recom-mended for Treat-ment other than by Glasses.	Received other forms of Treat-ment.	For whom no Treat-ment was considered necessary.	No Informa-tion.
		Under Authority's Scheme—Clinic or Hospital.	By Private Prac-titioner or Hospital.	Other-wise.	Total.	Under Author-ity's Scheme.	Other-wise.	Under Author-ity's Scheme.	Other-wise.				
Boys	36	14	3	1	18	12	4	12	4	2	2	...	18
Girls	11	6	...	...	6	6	...	6	...	...	...	...	5

TREATMENT OF DEFECTS OF NOSE AND THROAT.

	Number of Pupils.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	6	...	...	...	1	5
Girls	8	7	...	7	...	1

The following set of tables gives similar information in regard to those pupils who were recommended to obtain treatment at some inspection prior to the last ("old cases"):—

SECONDARY SCHOOLS.

TREATMENT OF DEFECTS.

OLD CASES.

Boys.

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Re-ferred for Treat-ment.	Treated.			Result.			
		Under Authority's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed	No infor-mation.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	4	...	1	1	...	1	...	3
Ear Disease	7	...	3	3	2	1	...	4
Eye Disease (external and other)	1	...	...	...	...	...	...	1
Dental Disease	83	...	23	23	14	9	24	36
Other Diseases	16	...	2	2	1	1	2	12

Girls.

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Re-ferred for Treat-ment.	Treated.			Result.			
		Under Authority's Scheme.	Other-wise.	Total.	Cured.	Im-proved.	Un-changed	No Infor-mation.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	1	...	...	...	...	...	1	...
Ear Disease	1	...	...	...	...	...	...	1
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease	67	...	26	26	5	19	5	38
Other Diseases	5	...	2	2	...	1	1	2

TREATMENT OF VISUAL DEFECTS.

	NUMBER OF PUPILS.												
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were Provided.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.				
Boys	27	2	6	5	13	2	9	1	9	2	2	...	14
Girls	11	2	2	1	5	2	2	2	2	...	...	1	6

TREATMENT OF DEFECTS OF NOSE AND THROAT.

	NUMBER OF PUPILS.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	9	1	...	1	2	6
Girls	18	...	...	...	3	15

TECHNICAL AND CONTINUATION SCHOOLS.

TREATMENT OF DEFECTS.

OLD CASES.

Boys.

DISEASE OR DEFECT.	NUMBER OF PUPILS.							
	Referred for Treatment.	Treated.			Result.			
		Under Authority's Scheme.	Otherwise.	Total.	Cured.	Improved.	Unchanged	No Information.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	...	...	...	...	...	...	...	...
Ear Disease	...	...	...	...	...	...	...	...
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease	6	...	...	...	...	...	1	5
Other Diseases	1	...	...	...	...	...	...	1

Girls.

Disease or Defect.	Number of Pupils.							
	Referred for Treatment.	Treated.			Result.			
		Under Authority's Scheme.	Otherwise.	Total.	Cured.	Improved.	Unchanged	No Information.
	1	2	3	4	5	6	7	8
Minor Ailments (Skin)—								
Ringworm—Head ...	...	...	...	...	...	...	...	...
Ringworm—Body ...	...	...	...	...	...	...	...	...
Scabies	...	...	...	...	...	...	...	...
Impetigo	...	...	...	...	...	...	...	...
Minor Injuries ...	...	...	...	...	...	...	...	...
Other Skin Disease ...	1	...	...	...	...	...	...	1
Ear Disease	...	...	...	...	...	...	...	...
Eye Disease (external and other)	...	...	...	...	...	...	...	...
Dental Disease	9	2	1	3	2	1	...	6
Other Diseases	5	...	...	...	...	...	2	3

TREATMENT OF VISUAL DEFECT.

	Number of Pupils.												
	Referred for Refraction.	Submitted to Refraction.				For whom Glasses were Prescribed.		For whom Glasses were Obtained.		Recommended for Treatment other than by Glasses.	Received other forms of Treatment.	For whom no Treatment was considered necessary.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Otherwise.	Total.	Under Authority's Scheme.	Otherwise.	Under Authority's Scheme.	Otherwise.				
Boys	2	...	...	...	...	...	...	...	...	...	...	...	2
Girls	...	...	...	...	...	...	...	...	...	...	...	...	...

TREATMENT OF DEFECTS OF NOSE AND THROAT.

	Number of Pupils.					
	Referred for Treatment.	Received Operative Treatment.			Received other forms of Treatment.	No Information.
		Under Authority's Scheme—Clinic or Hospital.	By Private Practitioner or Hospital.	Total.		
Boys	3	...	...	...	...	3
Girls	5	3	...	3	1	1

At the end of the year there were 23 boys and 8 girls in Industrial Schools in respect of whom the Education Committee were making contributions.

EMPLOYMENT OF CHILDREN AND YOUNG PERSONS.

The formal arrangements remain as described in previous Reports. A considerable number of children have been examined for the purpose of employment. The following brief statement is supplied by the courtesy of the Elementary Department :—

Number of cases of suspected illegal employment dealt with by School Attendance Officers	730
Number of cases reported	80
Number of prosecutions	16

The Attendance Officers continue to perform numerous duties not directly connected with school attendance. The supervision of the employment of children entails work at irregular hours and often on Saturdays and Sundays. Other work connected with the physical welfare of children and with the activities of the School Medical Department continues to increase. Cases where children are neglected by their parents are frequently dealt with in co-operation with the National Society for the Prevention of Cruelty to Children without resorting to prosecution. The Attendance Officers are also frequently called on to arrange for sending children to convalescent homes or to the seaside for recuperation after illness, and they are often closely concerned with the arrangements for the transfer of children to Special Schools. The Annual Reports from the districts invariably record gratifying instances of active philanthropic work, of which the following examples may be quoted :—

(*a*) 146 pairs of boots and clogs provided. Amount expended, £55 3s. 4d.
(*b*) 84 pairs of clogs and several parcels of clothing provided.
(*c*) 39 pairs of clogs provided, also 260 pints of milk and 4 lbs. virol provided.
(*d*) 58 pairs of clogs provided.
(*e*) 40 pairs of clogs provided.
(*f*) 32 pairs of clogs provided.
(*g*) 166 pairs of clogs provided.
(*h*) 120 pairs of clogs provided and several sets of clothing.
(*i*) Relief, consisting of food, medicine, clothes or footwear, cost £65.
(*j*) Clog Fund expended £17.

This list is not exhaustive, and does not give a full idea of the personal interest which is taken by the Officers in any of their difficult cases. Instances are not lacking of actual contributions from the Officers' own pockets in cases of extreme need.

The following figures show the number of boys and girls of school age registered for employment before and after school hours, and the occupation in which they are engaged ; also the number of boys between 15 and 16 years of age who are in possession of badges for street trading and the nature of such trading :—

Total number of children employed before and after school hours—
Boys, 1,211 ; Girls, 94.

Occupations—

(*a*) Errands for grocers	135
(*b*) Errands for greengrocers	34
(*c*) Milk delivery	249
(*d*) Newspaper delivery	794
(*e*) Other occupations	94

Street Trading—

Total number of boys between 15 and 16 years of age engaged in Street Trading	59

Occupations—

(*a*) Newspaper selling	57
(*b*) Hawking	2

Twenty-three formal notifications of the employment of children in theatrical performances have been received during the year, representing twenty-four children. In these cases the theatres and places of residence were visited by the Superintendent of School Attendance Officers and everything found satisfactory.

Five applications for licences to employ children in theatrical entertainments were granted, two licences issued during a previous year were renewed for a further period, and one application for a licence was refused.

The Adoption of Children Act, 1926, came into operation on the 1st January, 1927. This Act provides a means of giving the child by adoption a proper legal status, and of imposing on its adopted parents full parental responsibilities and conferring on them full parental rights. It is already evident that the benefits of the Act will be freely sought after, and that they will be a particular advantage to illegitimate children, many of whom have, in fact, though not in law, been already adopted by people who had no children of their own.

The Education Committee have agreed to act as guardian *ad litem* when asked to do so by the County Court or Local Magistrates.

During the year 39 applications have been made ; one to County Court and 38 to the Magistrates, as against one last year. In all these cases investigations are made by the Superintendent of School Attendance Officers personally, and at the hearing of the cases the Superintendent appears to give a report and recommendation. In all cases the recommendation of the Superintendent has been acted upon. It is pleasing to hear expressions of appreciation and acknowledgment of the services of the Education Committee and the manner in which inquiries have been made on their behalf.

MISCELLANEOUS.

The majority of scholarship candidates have had recent medical examination. These are reported on the form of entrance for such examination. If a further examination be desired, the candidate presents himself at some suitable centre for examination by the Assistant County Medical Officer in whose area he lives. Special reports on illnesses of teachers are made as occasion arises. All the students passing out from the Edge Hill Training College have been specially examined.

A number of lectures, in many cases arranged in conjunction with Miss Tipper, the organizing lecturer employed by the Public Health Department, have been given to parents, mothers, members of Women's Institutes, Mothers' Unions, &c., during the year.

Lectures, illustrated by suitable films and lantern slides, have been given by members of the School Medical and Dental staff, and Miss Tipper, to large numbers of school children on such subjects as Personal Hygiene, Cleanliness, Care of the Teeth, &c., in the following districts :—Ormskirk, Aspull (New Springs), Ulverston, Fleetwood, Litherland—with approximately total attendances of 5,500, and to parents in Ormskirk, Failsworth, Clayton-le-Moors, Standish, Ulverston and Fleetwood with approximately total attendances of 2,000.

The lectures to parents and adults included, in addition to the above subjects, others, such as the Health and Welfare of Children and Public Health and Hygiene. The attendances were most satisfactory, and interest and appreciation were shown.

Various courses of lectures to Midwives have been given by members of the Medical Staff.

During the past three years a series of lectures on professional and technical subjects relating to their work have been delievered to the Nursing Staff by the Medical Staff. Attendance at these lectures, which are held once a month, is compulsory. The subjects dealt with have been Maternity and Child Welfare and School Medical Work, Ante-Natal Hygiene, Social Hygiene for Women, Ophthalmia Neonatorum, Hygiene of Infancy and Childhood, Clothing of Infants and Children, Orthopædics, Infant Feeding, Rickets, Milk, Epidemiology, and some Infectious Diseases.

It is intended to continue these lectures, which have proved most valuable to the staff.

SPECIAL INQUIRIES.

Further investigations with respect to Goitre have been made by Dr. H. L. Cronk, whose conclusions are stated at the end of his article.

GOITRE.

The following further investigations were made in 1927 :—

1.—Change in size of the thyroid with lapse of time.

2.—Growth rate in goitrous children.

3.—Blood pressure measurements in goitrous children.

1.—CHANGE IN SIZE OF THYROID.

Fifty-six boys and 59 girls found in 1926 to have goitre were re-examined in 1927 to see what alteration, if any, had taken place in the size of the thyroid. The intervals which elapsed between the two observations varied, being between 12 to 17 months, with one or two exceptions. Estimation of the size of the goitre was made by the same examiner, *i.e.*, myself, on both occasions, and on the latter occasion, before the original estimate was known. No measurements of the circumference of the neck were taken, but the goitres were classified by the eye into small, moderate, or large. For the purpose of the investigations the age-group into which the child falls was determined by the age when last seen ; for instance, all those whose ages fall between 10 years and 6 months and 11 years and 6 months at the time of the last examination were included in one age group. The following table (Table 1) shows the number in each age group whose goitres had increased, diminished or remained stationary since the previous examination.

Table I.—Showing the number of goitrous children whose goitres increased (+), *diminished* (—), *or remained stationary.*

Age when last seen.	Boys.			Girls.		
	+	—	Stationary.	+	—	Stationary.
6½—7½	1	0	0	0	0	0
7½—8½	0	0	1	0	0	0
8½—9½	1	0	3	2	0	3
9½—10½	2	3	8	1	0	6
10½—11½	3	4	6	3	8	10
11½—12½	3	4	2	3	2	3
12½—13½	4	3	2	4	6	4
13½—14½	1	1	4	1	2	1
Total	15	15	26	14	18	27
Percentage ...	27	27	46	24	31	45

This Table can be summarised as follows :—

(1) Boys and girls both behave in a similar manner as regards the change in size of the thyroid when all ages are combined ; the numbers examined are too small to determine whether there is any real sex difference in this respect at different ages.

(2) After an interval averaging about 15 months, nearly half the children with goitre, when all ages are combined, show no change in the size of the gland ; in one quarter there is an increase, and in one quarter a decrease in size.

(3) The proportion of goitres increasing, decreasing or remaining stationary in size seems to vary with the age. The greatest proportion of children re-examined between the ages of eight and a half years to ten and a half years show no change in the size of the goitre since the previous examination. Most change—increase or decrease—is found in children re-examined between the ages of eleven and a half and thirteen and a half years (14 out of 18) among boys, and between twelve and a half and fourteen and a half (13 out of 18) among girls.

Knowledge of the normal "life history" of the goitre in childhood is essential to any estimation of the results of treatment. In the series of cases investigated, one or two only had received any treatment.

2.—GROWTH-RATE IN GOITROUS CHILDREN.

An investigation was made into the monthly rate of growth of children with goitres to see if children whose goitres decreased or increased in size varied in this respect from those whose goitres remained stationary. For an estimation of the average monthly rate of growth the average interval of time between the last examination and the next previous was determined, and so the average growth per month obtained by adding the growth made by all the children in any particular age group together and dividing by the number of children in that group and then by the average interval between examinations. The results are shown in Table 2.

Table II.—Showing variation in rate of growth of goitrous children with variation in size of thyroid.

Age.	Boys.					Girls.			
	1	2	3	4	5	2	3	4	5
8½—9½	—	0	...	...	...	...	...	...	...
	0	3	12	5·88	0·16	3	13	7·75	0·20
	+	1	12	1·62	0·13	2	14	4·25	0·15
9½—10½	—	3	13	7·38	0·19	...	...	...	...
	0	8	14	18·02	0·16	6	11	13·12	0·20
	+	2	10	2·62	0·13	1	12	2·0	0·17
10½—11½	—	4	15	8·50	0·14	8	14	24·0	0·21
	0	6	16	15·38	0·16	10	16	24·88	0·15
	+	3	12	5·88	0·16	3	17	7·12	0·14
11½—12½	—	4	17	11·5	0·17	2	12	5·0	0·21
	0	2	16	5·62	0·17	3	14	8·75	0·21
	+	3	13	5·4	0·14	3	14	6·25	0·15
12½—13½	—	3	14	6·75	0·16	6	18	22·25	0·21
	0	2	16	4·38	0·14	4	19	14·12	0·19
	+	4	15	8·75	0·15	4	13	10·75	0·21
13½—14½	—	1	20	2·88	0·14	2	18	9·12	0·25
	0	4	17	10·88	0·16	1	15	3·38	0·23
	+	1	22	3·0	0·14	1	18	3·62	0·20

In Column 1 — signifies goitre decreasing in size ; 0, remaining stationary ; and + increasing in size. Column 2 shows the number of children in that particular group. Column 3, the average interval in months since the previous examination. Column 4, the total growth (in inches) made by all the children in the group ; and Column 5, the average growth in inches made per child per month.

It appears that the following conclusions can be drawn :—

(1) The monthly rate of growth of children whose goitres remained stationary over the period between the two examinations was practically constant for all ages examined, with the slight exception of the age group 12½—13½ among boys and 10½—11½ among girls, the latter sex always having a growth rate in excess of the former.

(2) Among both boys and girls it can be said that stationary goitres tended to larger growth rate than increasing goitres, except at 12½—13½ ; and diminishing goitres to larger growth rates than either at all ages among girls, with the exception of 10½—11½ and 13½—14½ among boys. The finding of a lower rate of growth in children with increasing goitres at most ages, together with the fact that most boys with goitre are taller than the average, suggests that increased growth rate is a precursor of the production of goitre. The sequence seems to be as follows : some factor increases growth and promotes goitre formation ; continued action of this factor increases the size of the goitre and lowers growth rate. It may be recalled that in Table X. of my paper of 1926, boys and girls of 12—13 years of age with goitre were actually smaller than the average. The course of events is very similar to that occurring in rickets, where the large, fat and rachitic child leads to a stunted adolescent. The diet in rickets shows a deficiency in vitamin D and an excess of carbohydrate ; the diet among goitrous children shows a deficiency in iodine and an excess of carbohydrate.

3.—Blood Pressure Measurements on Goitrous Children.

The systolic and diastolic pressures were measured in each of the goitrous children examined ; the average measurements are shown in the accompanying Table **III.** a and b, and the variations in Table **IV.** a and b. Among boys decreasing goitres show a decrease in the systolic blood pressure at all ages, except at 11½—12½, and a larger decrease in diastolic blood pressure at all ages with no exception. The pulse pressure thus always shows an increase. Increasing goitres show a decrease in the systolic blood pressure at all ages except 12½—13½ and 13½—14½, with a decrease in diastolic pressure except at 9½—10½ and 13½—14½. The pulse pressure shows decreases in the age-groups 8½—9½, 9½—10½, 11½—12½. Stationary goitres show an increase in systolic pressure, except at 10½—11½ and 11½—12½, with a decrease in diastolic pressure at all ages. The pulse pressure shows an increase in each age-group.

The most interesting facts which emerge from the study of these tables (III. a and IV.a) are :—

(1) The peculiar position of the age-group 10½—11½, in which the growth rate among cases of increasing goitre is exceptionally large, and the pulse pressure exceptionally increases, and *vice versa* among decreasing goitres. (See Diagram.)

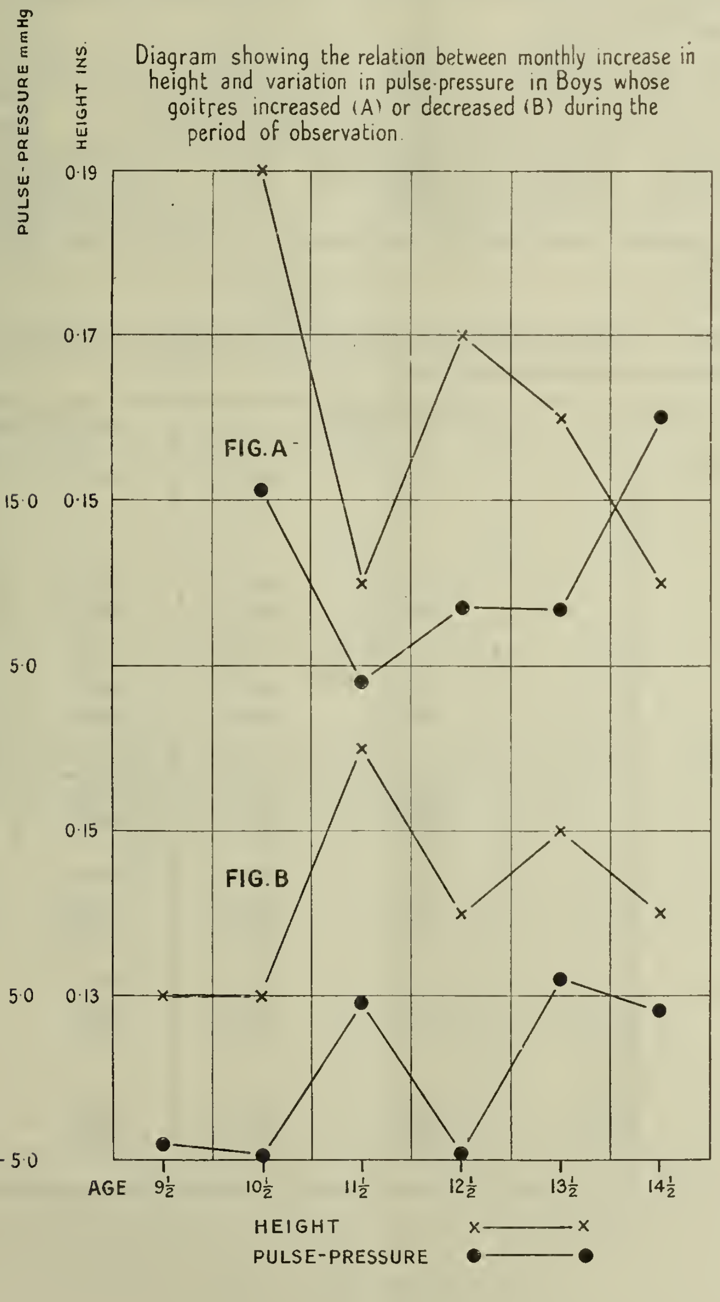


Diagram showing the relation between monthly increase in height and variation in pulse-pressure in Boys whose goitres increased (A) or decreased (B) during the period of observation.

(2) The fact that increase in size of a goitre is of two varieties :—

(*a*) Associated with lowered pulse pressure and lessened growth rate ; this occurs chiefly in the age-groups 8½—9½, 9½—10½ and 11½—12½, *i.e.*, roughly speaking, among children who have developed goitre at least 15 months previously to 9, 10 and 12 years of age, and whose goitres have since increased in size ;

(*b*) associated with increased pulse pressure and increased growth rate—or, at any rate, not diminished rate ; this occurs chiefly in the age group 10½—11½, and to a less extent 12½—13½, *i.e.*, among children who have developed goitre at least 15 months previously to 11 and 13 years of age and whose goitres have since increased in size.

The suggestion immediately presents itself that round about the ages of 10 to 11 years and 12 to 13 increase in size of a goitrous thyroid is evidence of hypertrophy with hyperactivity, while at other ages increase in size is evidence of lessened activity and is probably associated with colloid storage rather than with cell proliferation. A further important conclusion also arises from the above observations of the difference of behaviour of the thyroid at different ages, and that is, that no definite results can be arrived at if all children with goitre are dealt with in one group ; sex and age must be taken into account as well as the state of the goitre, *i.e.*, increasing decreasing, or stationary.

The results of Dr. Stocks, as given in the Annual Report of the Chief M.O. to the Board of Education, are said to show that " there remains in boys no evidence of any sensible relation between size of the thyroid gland and . . rate of growth. . . . In girls, however, there remains a significant positive association of thyroid size with height and weight, rates of growth, . . . systolic and diastolic blood pressures, but none with pulse-pressure . . ." I suggest that these conclusions would be modified if goitres at other ages than at 12—13 years were taken into consideration.

Table IIIa.—Average Systolic and Diastolic blood pressure of boys showing increasing, decreasing or stationary goitres.

Age Group.		First Examination.		Second Examination.	
		S.P.	D.P.	S.P.	D.P.
8½—9½ ...	–	...	...	...	...
	0	101·3	68·0	102·0	63·3
	+	98·0	64·0	82·0	52·0
9½—10½ ...	–	107·3	66·6	105·3	49·3
	0	95·2	65·5	103·0	61·5
	+	91·0	50·0	90·0	54·0
10½—11½ ...	–	105·5	59·5	105·0	55·0
	0	122·0	58·0	112·0	57·7
	+	108·0	67·3	106·7	61·3
11½—12½ ...	–	101·0	62·5	106·0	59·0
	0	96·0	68·0	93·0	60·0
	+	107·3	63·3	101·3	62·0
12½—13½ ...	–	104·0	62·7	102·0	52·0
	0	104·0	63·0	105·0	53·0
	+	100·0	60·5	101·5	56·0
13½—14½ ...	–	110·0	70·0	110·0	50·0
	0	102·5	64·5	105·5	60·5
	+	96·0	50·0	110·0	60·0

Table IIIb.—Average Systolic and Diastolic blood pressure of girls showing increasing decreasing, or stationary goitres.

Age Group.		First Examination.		Second Examination.	
		S.P.	D.P.	S.P.	D.P.
8½—9½ ...	–	...	...	...	...
	0	98·0	54·0	108·0	50·0
	+	96·0	58·0	95·0	50·0
9½—10½ ...	–	...	...	...	...
	0	96·0	65·3	97·3	59·6
	+	92·0	52·0	100·0	46·0
10½—11½ ...	–	101·5	69·0	102·5	63·5
	0	101·8	66·0	104·6	62·4
	+	106·7	69·3	109·3	57·3
11½—12½ ...	–	119·0	69·0	114·0	51·0
	0	120·7	58·7	127·3	52·7
	+	100·7	70·7	105·3	56·7
12½—13½ ...	–	102·3	64·0	107·0	63·7
	0	103·0	70·0	106·5	61·0
	+	116·5	75·5	124·0	70·5
13½—14½ ...	–	126·0	64·0	134·0	50·0
	0	120·0	68·0	124·0	70·0
	+	108·0	64·0	130·0	48·0

Table IVa.—Showing variation of blood pressure, &c., with size of goitre. (Boys.)

AGE.		8½—9½.	9½—10½.	10½—11½.	11½—12½.	12½—13½.	13½—14½.
S.P.	–	...	– 2·0	– 0·5	+ 5·0	– 2·0	0
	0	+ 0·7	+ 7·8	– 10·0	– 3·0	+ 1·0	+ 3·0
	+	– 16·0	– 1·0	– 1·3	– 6·0	+ 1·5	+ 14·0
D.P.	–	...	– 17·3	– 4·5	– 3·5	– 10·7	– 20·0
	0	– 4·7	– 4·0	– 0·3	– 8·0	– 10·0	– 4·0
	+	– 12·0	+ 4·0	– 6·0	– 1·3	– 4·5	+ 10·0
P.P.	–	...	+ 15·3	+ 4·0	+ 8·5	+ 8·7	+ 20·0
	0	+ 5·4	+ 11·8	– 9·7	+ 5·0	+ 11·0	+ 7·0
	+	– 4·0	– 5·0	+ 4·7	– 4·7	+ 6·0	+ 4·0

Table IVb.—Showing variation of blood pressure, &c., with size of goitre. (Girls.)

AGE.		8½—9½.	9½—10½.	10½—11½.	11½—12½.	12½—13½.	13½—14½.
S.P.	–	...	...	+ 1·0	– 5·0	+ 4·7	+ 8·0
	0	+ 10·0	+ 1·3	+ 2·8	+ 6·6	+ 3·5	+ 4·0
	+	– 1·0	+ 8·0	+ 2·6	+ 4·6	+ 7·5	+ 22·0
D.P.	–	...	...	– 5·5	– 18·0	– 0·3	– 14·0
	0	– 4·0	– 5·7	– 3·6	– 6·0	– 9·0	+ 2·0
	+	– 8·0	– 6·0	– 12·0	– 14·0	– 5·0	– 16·0
P.P.	–	...	...	+ 6·5	+ 13·0	+ 5·0	+ 22·0
	0	+ 14·0	+ 7·0	+ 6·4	+ 12·6	+ 12·5	+ 2·0
	+	+ 7·0	+ 14·0	+ 14·6	+ 18·0	+ 12·5	+ 38·0

Tables IIIb. and IVb. give the corresponding results among girls.

Almost without exception there is a rise in both systolic and pulse pressures, with a lowering of diastolic. The most striking points are :—

(1) the rise in pulse pressure among increasing goitres at all ages to a very similar extent, and a rise varying with the ages in decreasing and stationary goitres ;

(2) the diminished rise in decreasing goitres in the age groups 10½—11½ and 12½—13½, corresponding to the variations in goitre increase. (Diagram 4, 1926 Annual Report.)

THE RELATIONSHIP BETWEEN RICKETS AND GOITRE IN CHILDHOOD.

Dr. Cronk has also investigated the relationship between Rickets and Goitre in childhood, and contributes the following article.

INTRODUCTION.

In a former general survey (Annual Report, 1926) of the conditions associated with the presence of goitre in children, a preliminary investigation into the diet of those with and those without goitre was made. The chief differences found were a deficiency of protein and iodine containing food in the diet of the goitrous, and a corresponding excess of carbohydrate. Since excess of carbohydrate is one of the chief predisposing factors in the production of rickets, I considered that an investigation into any possible relationship between the occurrence of rickets and the occurrence of goitre would be of interest.

All the children examined in this investigation had two or more other members of their family attending school, all of whom were examined. This selection was made because, as a result of the former investigation already mentioned, I found that goitre was frequently present in more than one member of a family, the cause of which might be similar conditions of upbringing or similar bodily constitution. By this selection comparison could be made between members of the same family. Altogether 201 boys and 211 girls, belonging to 122 families, were examined.

The presence of rickets, present or past, was determined by the condition of the permanent incisors and molars, deformities of the tibia, presence of knock-knee or bowleg. The history of any former rachitic condition was disregarded as evidence of rickets. As regards the presence of goitre, only those who showed a visible swelling of the thyroid on inspection of the neck were considered to have goitre. The presence of a palpable enlargement of the thyroid was also noted, but was not classified as goitre.

RELATION BETWEEN THE PRESENCE OF RICKETS IN ONE MEMBER OF A FAMILY AND GOITRE IN THAT FAMILY.

Investigation into the relationship between rickets and goitre in individual children is handicapped by the fact that slight or even moderate rachitic deformity of bones or joints decreases even to disappearance with increase of age, whilst the incidence of goitre increases to puberty. For this reason the relation between the presence of rickets in one member of a family and goitre in that family seems to be of importance. The presence of one rachitic child in a family suggests that other members, although they show no present evidences of rickets, may also have been subjected to adverse factors predisposing to rickets, but have either just avoided bony deformity or have become cured.

Is a goitrous child more likely to be a member of a family in which one or more children show signs of rickets than of a family none of whom show any such signs ?

Among the 122 families investigated, 80 revealed one or more members showing signs of rickets, and 42 were free. Forty per cent. of the 80 families showing rickets contained a goitrous child, and 59 per cent. a child with palpable enlargement of the thyroid. Twenty-six per cent. of the 42 families, in which no child showing signs of rickets was seen, contained a goitrous child, and 36 per cent. a child with palpable thyroid enlargement.

Thus goitre was considerably more common in the "rachitic" than in the "non-rachitic" families.

In more detail these 122 families may be grouped thus :—

Group A.—Rachitic families, 80 in number.

(1) Rickets and goitre associated in the same child, none other showing either rickets or goitre. This sub-group contained ten families, or 12 per cent. of the rachitic.

(2) The child with goitre has rickets, but one or more of the other children have rickets also. This sub-group contained 11 families, or 14 per cent. of the rachitic. In all but one family the children with rickets were younger than the goitrous ones, being aged eight years (one child), seven years (three children), six years (three children), five years (one child), and four years (two children).

The one exceptional family contained M., aged 10, nil ; F., aged eight, rickets only ; M., aged 7, goitre and rickets.

(3) The child with goitre has rickets, but one or more others have goitre but no signs of rickets. This sub-group contained five families, or 6 per cent. of the rachitic. Two of these cases of goitre without signs of rickets were in girls aged 11 and 12 respectively ; two in boys aged 10 and 11 respectively ; and one in a boy aged five.

(4) The child with goitre has no signs of rickets, but one or more others have rickets. This sub-group contained six families, or 8 per cent. of the rachitic. In five out of these six families, the case with goitre was a girl, the remaining case being a boy aged 13, the eldest of three at school. In all but two of the six families the goitrous case was older than the rachitic non-goitrous ; in these two the non-goitrous members were boys.

(5) No child had goitre, but one or more show signs of rickets. This sub-group contained 48 families or 60 per cent. of the rachitic.

■ GROUP 1
▥ " 2
▤ " 3
▒ " 4
□ " 5 (OR 6) IN FIG 3 AND 4

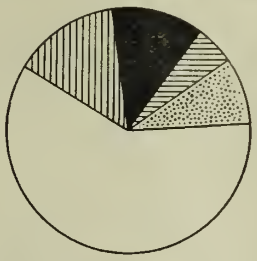


FIG. 1

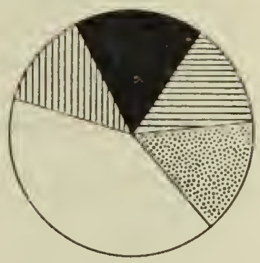


FIG. 2.

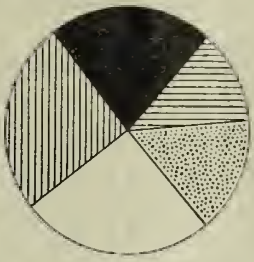


FIG. 3.

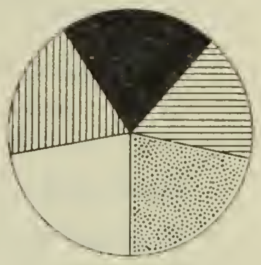


FIG. 4.

This distribution can be seen at a glance in figure 1.

In 32 per cent. of the 80 families, goitre was associated with rickets in the same person, and in 40 per cent. of the families in which rickets occurred goitre was also present.

Taking palpable enlargement of the thyroid into account, the corresponding figures are :—

Group 1	... 13, or 16 per cent.
Group 2	... 12, or 15 per cent.
Group 3	... 11, or 14 per cent.
Group 4	... 11, or 14 per cent.
Group 5	... 38, or 41 per cent.

Total of Groups 1, 2 and 3=36, or 45 per cent.

Total of Groups 1, 2, 3 and 4=47, or 59 per cent.

i.e., In 45 per cent. of the 80 families, enlarged thyroid was associated with rickets in the same person, and in 59 per cent. in the same family.

This distribution is shown in figure 2.

Of the 122 families, 43 contained one or more goitrous children, and 62 one or more with palpable enlargement of the thyroid ; 32 of the 43 families, or 74 per cent., also contained one or more children showing rickets (while in 26, or 60 per cent., goitre and rickets occurred in the same child) ; in only 11, or 26 per cent., was no evidence of rickets found in the goitrous child or in the brothers and sisters examined. Corresponding figures for those with palpable enlargement of the thyroid are 47, or 76 per cent, rickets and enlarged thyroid in the same family, and 36, or 58 per cent., in the same child. These distributions are shown in figures 3 and 4.

Of the 79 families in whom no case of goitre occurred, rickets was present in 48, or 61 per cent. It cannot be said, therefore, that rickets is much more frequently present in families in which goitrous children are found than in the general population.

Relation between the presence of Rickets and Goitre among the Children examined.

Is a child with goitre more likely to be found among those showing signs of rickets than among those free from such signs ? In the 122 families investigated, 201 boys and 211 girls were examined ; Tables I. a (boys) and I. b (girls) show the distribution of these children with respect to evidences of rickets alone, goitre alone, both, or neither.

Table Ia. Boys.—Showing the number of boys at each age (3—14) with the condition stated.

Age.	14	13	12	11	10	9	8	7	6	5	4	3
Rickets alone	1	4	6	6	2	3	8	12	13	2	2	2
Goitre and Rickets ...	0	3	1	0	3	2	1	3	0	0	0	0
Goitre alone	0	1	0	4	1	3	1	0	0	1	0	0
Neither	2	10	7	17	15	5	10	11	15	19	4	1
Total ...	3	18	14	27	21	13	20	26	28	22	6	3

Table Ib. Girls.

Age.	14	13	12	11	10	9	8	7	6	5	4	3
Rickets alone	0	5	4	4	5	5	3	3	6	5	4	0
Goitre and Rickets ...	0	0	4	1	5	2	0	1	0	1	0	0
Goitre alone	0	3	3	5	4	0	2	0	2	0	0	0
Neither	0	14	14	7	15	16	15	21	11	10	9	2
Total ...	0	22	25	17	29	23	20	25	19	16	13	2

In Table II. these two tables are summarised :—

Table II. (Summary of Tables Ia. and Ib.).

	Boys.		Girls.	
	All Ages.	Ages 5—13 inclusive.	All Ages.	Ages 5—13 inclusive.
Rickets alone	61	56	44	40
Goitre and Rickets ...	13	13	14	14
Goitre alone	11	11	19	19
Neither	116	109	134	123
Total	201	189	211	196

Thus 69 boys (aged 5—13) showed signs of rickets, of whom 13, or 19 per cent., had goitre ; 120 showed no signs of rickets, of whom 11, or 9 per cent., had goitre. Again, 54 girls (aged 5—13) showed signs of rickets, of whom 14, or 26 per cent., had goitre ; 142 showed no signs of rickets, of whom 19, or 13 per cent., had goitre.

Tables III a and III b, with their summary in Table IV., show the corresponding figures when palpable enlargement of the thyroid is taken into account. (Enlarged thyroid in these tables includes the cases of Goitre.)

Table IIIa. Boys.

Age.	14	13	12	11	10	9	8	7	6	5	4	3
Rickets alone	1	3	3	3	1	2	6	10	10	2	2	0
Enlarged thyroid and rickets	0	4	4	3	4	3	3	5	3	0	0	2
Enlarged thyroid alone	0	3	0	5	1	3	2	0	0	3	0	0
Neither	2	8	7	16	15	5	9	11	15	17	4	1
Total ...	3	18	14	27	21	13	20	26	28	22	6	3

Table IIIb. Girls.

Age.	14	13	12	11	10	9	8	7	6	5	4	3
Rickets alone	0	4	2	4	5	5	2	3	6	5	3	0
Enlarged thyroid and rickets	0	1	6	1	5	2	1	1	0	1	1	0
Enlarged thyroid alone	0	5	5	5	7	2	6	1	2	0	0	0
Neither...	0	12	12	7	12	14	11	20	11	10	9	2
Total ...	0	22	25	17	29	23	20	25	19	16	13	2

Table IV.

	Boys.		Girls.	
	All Ages.	Ages 5—13 inclusive.	All Ages.	Ages 5—13 inclusive.
Rickets alone	43	40	39	36
Enlarged thyroid and rickets	31	29	19	18
Enlarged thyroid alone ...	17	17	33	33
Neither	110	103	120	109
Total	201	189	211	196

Thus, of the 69 boys (aged 5—13) showing signs of rickets, 29, or 42 per cent., showed palpable enlargement of the thyroid ; of the 120 who showed no signs of rickets 17, or 14 per cent., showed such enlargement. Of the 54 girls (aged 5—13) who showed signs of rickets, 18, or 33 per cent., showed palpable enlargement of the thyroid ; of the 142 who showed no signs, 33, or 23 per cent., had enlarged thyroids.

It is noticeable that the inclusion of palpable enlargements of the thyroid with visible enlargements (goitre) increases the relative predominance of enlarged thyroids among rachitic boys but diminishes it among girls.

Comparison of liability to Goitre of Rachitic with that of Non-Rachitic Members of Rachitic Families.

Are non-rachitic children in families which contain a rachitic child (*i.e.*, rachitic families) more liable to goitre than children in families free from rickets (non-rachitic families) ?

In the 80 families investigated in which rickets occurred, there were seen 75 boys and 60 girls showing evidence of rickets ; of these, 13 boys (or 18 per cent.) and 15 girls (or 25 per cent.) had goitre. In the 80 families, 62 boys and 78 girls showed no evidence of rickets ; of these, 4 boys (or 7 per cent.) and 6 girls (or 8 per cent.) had goitre.

In the 42 non-rachitic families, 64 boys and 73 girls were seen, of whom 7 boys (or 11 per cent.) and 12 girls (or 16 per cent.) had goitre.

It seems clear, therefore, that goitre is not more prevalent in rachitic families, apart from rickets, *i.e.*, there is no family predisposition to goitre in such families, apart from any possible predisposition to rickets.

Relation between the severity of Rickets and liability to Goitre.

Is goitre more likely to occur in more marked cases of rickets than in slighter cases ? Or is it more likely to be of a larger size in such severer cases ?

Of 80 families containing one or more rachitic children, 32 (or 40 per cent.) also contained one or more goitrous children ; 18 of these 80 families showed marked signs of rickets, and six of them (or 33 per cent.) contained one or more goitrous children.

Now, in these 18 families 68 children were attending school and were examined for their condition as regards thyroid enlargement or signs of rickets.

(1) Thirty children showed no signs of rickets whatever ; of these, 25 (or over 80 per cent.) had no enlargement of the thyroid palpable or visible, two had palpable enlargement of the thyroid, and three (all girls) had goitres.

(2) Thirteen children were found to have knock-knee as the only sign of rickets ; of these, 11 (or 85 per cent.) showed no thyroid enlargement, two showed palpable enlargement of the thyroid (both boys), and none had goitres.

(3) Twenty-five children showed other signs of rickets than knock-knees, such as bow legs, pitted molars, &c. ; of these, 16 had normal thyroids (*i.e.*, 64 per cent.), four thyroids enlarged to the touch, and five definite goitres.

Among the 201 boys and 211 girls examined in this investigation, 72 boys and 54 girls between the ages of 5 and 13 showed signs of rickets (see Table II.). Apart from the 25 children (12 boys and 13 girls) mentioned in the previous paragraph as showing signs of rickets other than knock-knees, the latter was the only sign of rickets seen among these rachitic children.

We thus can divide the children seen (aged 5—13 inclusive) into three groups :—

		No. seen.	Goitres.	Per cent.	Palpably Enlarged Thyroid.	Per cent.	Total Enlarged Thyroid.	Per cent.
(1) Non-rachitic ...	Boys	120	11	9	6	5	17	14
	Girls	142	19	13	14	10	33	23
(2) Showing knock-knees only	Boys	60	13	22	12	20	25	42
	Girls	41	9	22	4	10	13	32
(3) Showing other signs of rickets	Boys	12	0	0	4	33	4	33
	Girls	13	5	38	0	0	5	38

These numbers are small, but they appear to show without much doubt that a child with rickets (whether the sign of its presence be slight and confined to knock-knees only, or be more severe) is more apt to develop an enlarged thyroid than a child who shows no signs of rickets. With more reservation it can be surmised that slighter evidence of rickets among boys is associated with greater liability to an enlargement of the thyroid than is found in the more pronounced cases of rickets. With greater assurance it may be said that the liability to goitre is not greater the more severe the evidence of rickets.

Summary and Conclusions.

The results of this investigation can be summarised briefly :—

(1) Goitre is more frequently found in a child from a family in which one member shows signs of rickets than in a child from a family free from such signs.

(2) Goitre is twice as commonly found among children showing signs of rickets as among children showing no such signs.

(3) Non-rachitic relatives of rachitic children are not more likely to develop goitre than members of families none of whom are rachitic.

(4) Severer cases of rickets are not more prone to develop goitre than milder.

These findings suggest that one or more factors favouring the development of rickets also favour the development of goitre. I suggest that one factor is excess of carbohydrate in the diet of the growing child. As a result of a previous investigation I found that goitre in children is most commonly an indication of increased thyroid activity, and Boyd Orr has shown that, in pigs fed on excess cereal, addition of traces of iodine to the diet favours the deposition of calcium in the bones. On this foundation I put forward the hypothesis that a number of goitres in children are largely caused by excess carbohydrate feeding (which may or may not lead to rickets), to neutralise the effect of which on calcium deposition the thyroid enlarges. The reason for the enlargement is presumably to afford a greater absorptive surface for the thyroxin elaborated, and so greater absorption and utilisation.

As a corollary arising from this theory, goitre will be favoured by rapid growth and active rickets of a slight degree not affecting growth seriously, and, conversely, children who are not growing actively or who are stunted from past effects of rickets will not tend to develop goitre.

This hypothesis of the causation of goitre explains :—

(1) that goitre is more prevalent in poorer families ;

(2) that goitre is more prevalent in large families ;

(3) that goitre is more likely to occur when means are straitened, *e.g.*, first and fourth or fifth children ;

(4) that goitre is associated slightly with nasopharyngeal affections, and with scarlet fever, which again are more prevalent in poorer, overcrowded families ;

(5) the increase of goitre in Vienna and other places since the war, and associated in the former place, at least, with increase of rickets ;

(6) familial incidence and not hereditary ;

(7) that goitre tends to be more prevalent where the infant mortality rate is high ; this again is associated with large families, straitened circumstances, overcrowding, and poor feeding.

ADDENDUM.

The following figures relating to the relative prevalence of goitre among children suffering from the effects of rickets as compared with that among children free from any signs of such effects have been obtained from the routine inspections carried out so far this year (1928). They relate to 765 children, an insufficient number to draw any valid conclusion from. The evidence, however, tends to support that brought forward as a result of examination of the members of families sending three or more children to school simultaneously.

I suggest that the connection between enlargement of the thyroid and rickets is due to the fact that the occurrence of rickets is aided by the undue consumption of carbohydrate food, which, by some chemical reflex, calls for the circulation of more iodine, by means of which calcium deposition in the bones is helped to take place. Again, a diet which is overloaded with carbohydrates and therefore apt to lack iodine is given, partly from ignorance and partly from the relative expense of other non-carbohydrate articles of diet.

Boys.

Ages.	3	4	5	6	7	8	9	10	11	12	13
Rickets ...	7	12	27	4	4	16	3	1	1	21	4
Goitre	0	0	1 (1)	0	0	1	1	0	0	1 (2)	0 (2)
No Rickets ...	10	13	31	14	10	76	15	5	11	75	12
Goitre ...	0	0	0	0	0	0 (1)	0	0	0	1 (4)	2
Total Boys ...	17	25	58	18	14	92	18	6	12	96	16
Total Goitre ...	0	0	1 (1)	0	0	1 (1)	1	0	0	2 (6)	2 (2)

Total (all ages) Boys—

Rickets : 100.
Goitre : 4(5) = 4 per cent. (9 per cent.).
No Rickets : 272 = 1.
Goitre : 3(5) = 1·1 per cent. (2·9 per cent.).

Girls.

Ages.	3	4	5	6	7	8	9	10	11	12	13
Rickets ...	8	5	13	6	1	124	2	1	6	26	8
Goitre... ...	0	0	0	0	0	1 (2)	0	0 (1)	1	4 (2)	1
No Rickets ...	11	20	41	24	7	72	9	3	13	74	19
Goitre ...	0	0	0 (1)	1	0	2 (3)	0	0	1	4 (1)	0
Total Girls ...	19	25	54	30	8	96	11	4	19	100	27
Total Goitre ...	0	0	0 (1)	1	0	3 (5)	0	0 (1)	2	8 (3)	1

Total (all ages) Girls—

Rickets : 100.
Goitre : 7(5) = 7 per cent. (12 per cent.).
No Rickets : 293.
Goitre : 8(5) = 2·7 per cent. (4·4 per cent.).

The figures in brackets ( ) denotes thyroids enlarged to palpation, but not to such an extent as to be classified as goitre.

SCHOOL CLOSURE DURING INFLUENZA EPIDEMICS.

In the following most interesting article, Dr. G. G. Johnstone, Assistant County Medical Officer, gives his views of the effects of the closure of schools during an epidemic of Influenza.

The Closure of Schools during an Epidemic of Influenza.

School closure for Influenza is at present a controversial matter and perhaps always may remain so. This would, however, be unfortunate, for there is no doubt that both medical and lay opinion desires some approach to uniformity of action during an epidemic.

In the practical application of school closure, the problem may be divided into three portions :—

(1) that of sparsely populated areas ;
(2) that of densely populated areas ;
(3) that of intermediate areas.

(*1*) *Sparsely Populated Areas.*

On the approach of an epidemic it is quite conceivable that in certain cases the early closure of the school might play some part in reducing its extent. Logically the school should be closed just before the epidemic is due, if that date could be ascertained. Failing this, the closure should take place immediately the first case in the school occurred, or even on the occurrence of a case in the house of a school child, whether the case be child or adult. Owing to the difficulty of the early diagnosis and to the shortness of the incubation period, this method of action must, in the vast majority of cases, be of theoretical rather than of practical interest. When the epidemic has thoroughly invaded a school, there is probably little advantage in closure, which would enable some non-infected children to play with infected children, to visit infected adults, or to travel by train or 'bus. There can be very few districts nowadays which are not served by a 'bus of some kind, and the ventilation is generally a very unsatisfactory feature. Further, as a school empties, owing to an epidemic, the teacher is able to keep the children under closer observation and to exclude any who show any of the early symptoms of the cold. In fact, the fewer there are in school the less chance is there of the children contracting the disease in school, an axiom applicable to nearly all infectious diseases in a well managed school.

There may be a time, however, shortly after the beginning of the epidemic when by closure several cases may be avoided. In this event the school should be kept closed until the epidemic has quite passed away from the district, a period which is probably about 4—5 weeks from the time of invasion. If this is not done, one of the chief arguments for school closure during an epidemic falls to the ground, for it is impossible to imagine that the infection will not be reintroduced into the school if the school be re-opened too soon.

(*2*) *Densely Populated Areas.*

Little time need be spent on this portion of the problem. In a highly complicated system of civilization such as exists in a densely populated area, it is only necessary to mention kinemas, concerts, churches, clubs, political meetings, mills, pits, Sunday schools, 'buses, trains, &c., to show how comparatively small would be the advantage of school closure. The Ministry of Health Memorandum 2/Med., 1927, states : " During Influenza prevalence, those who are able to do so will diminish their chances of contracting the disease by keeping away from all places of public resort or social gatherings. Most persons are able to avoid at least some occasions of forming part of a crowd, or assembly, without prejudice to their necessary occupations, and should do so." This is common sense and is known to every man and woman in the country, but it is an unfortunate fact that few make use of their knowledge of preventive medicine. Education in preventive means cannot be considered to be a factor of large practical value. During the Influenza epidemics of the last ten years, almost everyone has been confronted with disease or even death. The lessons have been learned in theory, but they are not put adequately into practice.

This is not, however, a direct argument against school closure, for if the infection were being spread in the schools from child to child, the less chance of their meeting the better. Hence it might be argued that if the schools were closed, one source of infection would disappear and the closure would act as educational propaganda. In the interest of the children, however, little if any protection would be gained, and those who have not been attacked have probably more chance of escape in a half empty school than in other places.

(*3*) *Intermediate Areas.*

This is the most difficult part of the subject. At first sight it would appear to be strange to state that school closure is of no avail in a densely populated area, that it is only occasionally of avail in a sparsely populated area, and yet in an intermediate area it is of value. One of the chief parts of the difficulty is the great variation in type of the intermediate areas, and actually in the distribution within the areas themselves of the density of the distribution of the houses.

In most areas of this type there is some factory, mill, or place where adults assemble for their livelihood. Further, there is more frequent use made of road and rail transport. In fact, all the arguments which apply to the densely populated area apply also in the case of the intermediate area, but perhaps not quite with the same force. The possibility of satisfactorily protecting the children by closing the school is more remote than in the sparsely populated area.

In the hope of obtaining further assistance regarding the advisability of closing schools, a small investigation has been made on schools affected by the epidemic of 1927.

This epidemic began, in the area under consideration, during the early part of February, and lasted until towards the end of March. In some parts of this area, schools were closed by the Medical Officer of Health, in other parts they remained open.

Approximately ten schools of each class have been selected, and the attendance of the children has been analysed during the months of January, February, and March.

The districts in which the schools are situated vary in type, but are all classified as "intermediate" as regards density of population. The parents of the children in each school work either in factories, pits, or more often in both.

The attendance registers have been used for ascertaining the figures, and the results have been expressed in three forms.

(1) The actual total percentage of attendance on each day of three months. This has involved the sum of the actual numbers present each day in each standard, or group of standards, being reduced to a percentage of the total possible attendance. By this method, though laborious, it was thought that comparisons in the rise and fall of attendance in the different schools would be more accurate.

(2) The weekly percentage attendance of each standard, or group of standards.

(3) The weekly percentage attendance of the school as a whole.

Where possible the infants and babies have been treated separately, but it was found impossible to deal with each school in exactly the same way. In some schools Standard I. and the infants are taught together in the same room ; in other schools the infants and the mixed school are different departments, and sometimes in separate buildings.

The results of the analysis have been put into graphic form for clearness, and a summary is given showing the type of area, the number of separate rooms, and the principal occupation of the parents in each case.

Perhaps the first feature of note, in looking at the graphs, is the very great deviations in the drop of attendance, which corresponds closely with the attack rate. Generally speaking, the most sudden drops took place in areas devoted to coal mining. In Blackrod, Standish. and Coppull some attendances fell away 30 or 40 per cent. in two or three days.

The period for which the school was closed has varied from about 10 days to three weeks. Two points are of interest on the re-opening of a school. In practically every case the attendance is good, 80—90 per cent. Even though the period of closure is for a long week-end (Graph 9) the attendance goes up over 10 per cent. The second point is that after a short closure during a falling attendance there is often some slight secondary fall towards the end of the week.

These results may be due to the feeling that as the school is to be re-opened on a certain day, it is considered by the Authorities that the danger has passed and that the children have had time to recover. The falling off in attendance towards the end of the week after re-opening might, at first sight, be thought to be a secondary wave of the epidemic arising in connection with infection in school. Against this it may be argued, firstly, that a longer and larger fall would be expected if this were the case ; secondly, that it may in part be accounted for by children returning too soon after their illness ; and thirdly, that the slight falling off in attendance towards the week-end is not an uncommon phenomenon. On the whole, there is little, if any, evidence to support the contention that a very considerable amount of infection is spread by the reassembly of a school, although in some cases of short closure many of the children must still be infectious on their return.

The period during which a school is affected by an epidemic is also variable. As is to be expected, the quicker the drop in attendance, the quicker the recovery. In some schools the whole period is not more than three to four weeks. The reasons for the differences in the rapidity of fall are not easy to discover. In two schools in one district the falls vary considerably. Hygienic factors, such as poor ventilation and overcrowding have little apparent effect. In one village there was a rapid and extensive fall in one school of average hygienic condition, whilst at an old school badly ventilated, badly lighted, and distinctly overcrowded and situated in the same street the fall was less rapid and less extensive.

It is perhaps impossible to draw any definite conclusion, but there is a suggestion that in some of the more modern schools, where there is a separate room for each class, and especially so in the more sparsely populated areas, the fall is gradual, and the duration of low attendance is prolonged. In some of the schools it will be seen that the attendance does not rise to normal until about five weeks from the beginning of the fall.

The weekly percentage of the separate standards, or groups of standards, has been investigated with the idea of finding out if anything can be done to exclude the children of one group, a unit generally corresponding with the children under one teacher in a separate room.

In certain cases there does appear to be evidence of one group's being infected before the rest of the school. Instances of this are seen in Graphs Nos. 18, 22 and 23.

Would any advantage be derived from excluding the remainder of the group? It is very doubtful, because by the time the fall has been discovered the disease is probably beginning to attack other groups in the school.

There is in most cases a bigger fall in the curves of the younger children, which is probably due to the fact that they are kept at home more than the older children when they are only slightly ill, just as in the same way the infant curve goes down in very bad weather (Graphs Nos. 9, 21, 27, end of second week of term). The similarity of the recovery rates in the younger and older children suggest that they are not more seriously ill than the older children.

In the two largest schools the boys, girls and infants are in separate buildings. These schools are in quite similar districts as regards density of population, but one is in a mining and the other in a cotton district. (Graphs Nos. 26 and 35). These two schools exhibit rather striking contrasts and similarities. The school in the mining area was closed for two and a half weeks. In spite of the closure, the period of bad attendance was not shortened, for in each case there is a dip extending over four to five weeks. Allowing for the period of closure, the curves are similar. In the school in the mining area (Graph No. 26) boys, girls and infants were similarly and simultaneously attacked, whereas in the school in the cotton district (Graph No. 35) there was a remarkably small drop in the attendance of the boys. This is strange and may be regarded as an argument against school closure, for undoubtedly there were cases of Influenza in the school, but they did not cause a disturbance in the boys' attendance. During the same time, there were many cases amongst the sisters and infants in the same homes. A more probable explanation, however, is the fact that in some schools there is an immense feeling of *esprit de corps* in regard to attendance which is, unfortunately, not always to the advantage of the children.

On medical grounds there are further features which must be taken into consideration. The severity of the type of the disease may be an important factor, and in those areas where there have been very serious cases of illness, and possibly some fatal result, there may perhaps be some advantage in a school closure because the general public will be more inclined to follow the rules for prevention and self-preservation. A rapid fall in attendance, however, must not be confused with severity of the type.

A second factor of importance is the treatment and convalescence of the children, and here arises the difficult problem of school attendance. As regards the acute stage of the disease, there can be little difference in the treatment whether the school is open or closed. The child will, in the great majority of cases, stay at home. As a sufficient period of convalescence is so important a factor in the treatment of Influenza, it becomes important to consider whether it is better for the children to try to return on the re-opening of the school or whether some definite period of exclusion is advisable during the period the school remains open. There is, as has been mentioned above, undoubtedly a distinct psychological effect on the minds of the parents on the re-opening of a school, with the considerable possibility of children being sent back too soon. On the other hand, if each case of Influenza could be automatically excluded from school for a definite period, this would in most cases ensure a more satisfactory convalescence.

Other factors may be mentioned, but they are not strictly of a medical nature. Firstly, the attitude of teachers towards a low attendance is interesting, and there are two very different views. One school of thought declares that with reduced numbers in the classes a really good opportunity is at last presented for useful work, whereas the opposite school complains that as everything will have to be done over again with those who are absent there is little use in continuing to teach. The percentage below which it becomes futile to teach is a matter for the opinion of experts in education, but two difficulties are at once obvious. The proportion absent from the different classes will be variable and will vary from day to day. There will probably be about 20 per cent. away for at least three weeks, but rarely will the percentage fall below 50, except perhaps in the very young children.

Secondly, when the numbers present fall to a very low percentage there must come a time when it can really not be worth while keeping the school open. It was pointed out above that the fewer children in school, the less urgent is the reason for closure on medical grounds. With the possible exception of carriers, there ought to be no infective children in school. The logical conclusion of this argument is that when nearly all the children are absent through illness and those few who are left behind are free from infection and perhaps immune, there can be no medical reason to close the school. Common sense says, however, that the school should be closed on educational grounds.

Financial consideration cannot fully be considered here, though it may be stated that the amendment of Rule 23 of Schedule IV. of the Code is to be welcomed as pointing the way to a wiser compromise between the aims of Public Health and Education. It is to be hoped that the proportion of 60 per cent. will be raised, and it is suggested that a lower figure be adopted below which schools might automatically close. These figures might be 66 and 33 respectively, except perhaps in the larger schools.

Thirdly, there is the educational value of school closure. The closing of a school may make the parents realise that there is danger present and influence them to avoid that danger in various other ways.

The closing of the schools should, of course, be logically accompanied by the closing of Child Welfare Centres and School Clinics, except for urgent cases. But it is submitted that a more effective educational procedure would be to keep the school open and by supervision, adequate exclusion of children, and general advice by the Medical and Teaching staffs to impress constantly upon the parents the nature and gravity of the epidemic.

One other paragraph of the Board of Education Memorandum may be quoted "Children showing symptoms of Influenza . . . should not be re-admitted until a careful examination of the heart and lungs has been made to eliminate possible latent sequelæ." This advice is also given in the Ministry of Health Circular, and this medical examination is highly desirable, though the practical difficulties in the way are probably insuperable. Here again it is probable that some compromise may be made, and it is suggested that some definite minimum period of exclusion should be stated within which the child should not be allowed to return to school, with the accompanying tramp, sometimes of long distances and frequently in bad weather, and to the strenuous exertion of physical drill. As to the duration of such period it is very difficult to be dogmatic. There is always the possibility of the minimum becoming, in practice, a maximum, but for an average case the figure of about 12 days is tentatively put forward.

SUMMARY.

(1) The closure of schools during epidemics of Influenza has been discussed for three different types of area.

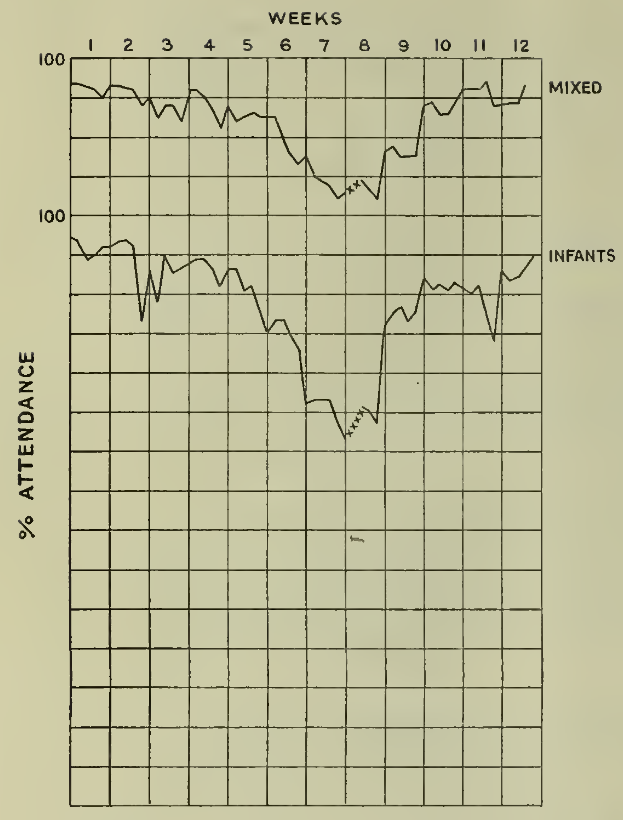
(2) Graphs have been drawn for schools (*a*) closed and (*b*) kept open during an epidemic.

(3) It is suggested that evidence shows that there is little to be gained and something to be lost by school closure.

(4) A minimum period of exclusion for each case is suggested.

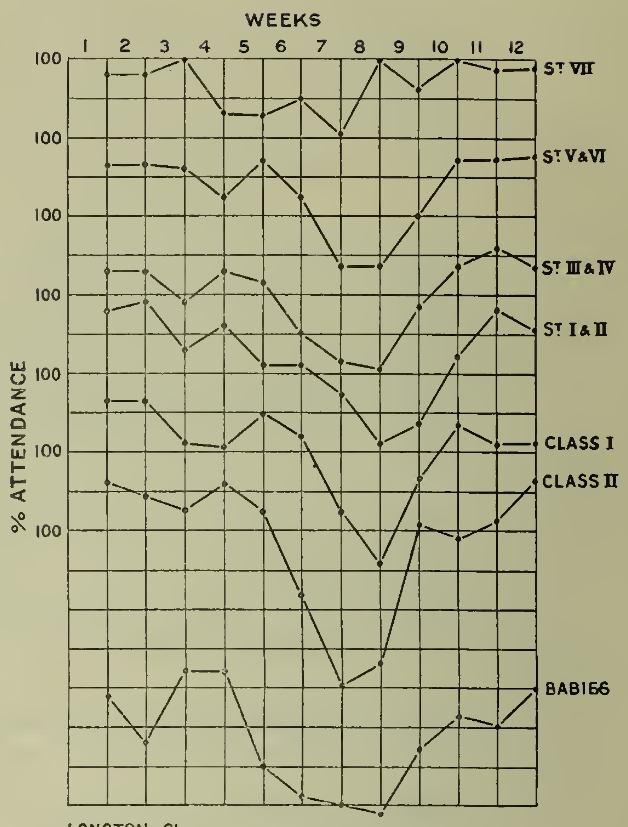
Graph No.	Name of School.	Type of Area.	Occupation of Parents.	No. of Rooms in School.
1 & 2	Longton Council	Variable	Agriculture Residential	7
3 & 4	Little Hoole, Walmer Bridge	Variable	Agriculture Cotton Mill	4
5 & 6	Penwortham Cop Lane C.E.	Medium	Agriculture Residential	4
7 & 8	Bamber Bridge Wesleyan	Urbanised	Mostly in Mills	4
9 & 10	Bamber Bridge St. Saviour's	Urbanised	Mostly in Mills	4
11 & 12	Bamber Bridge School Lane	Urbanised	Mostly in Mills	4
13 & 14	Higher Walton C.E.	Mixed	Mills (mostly) Agriculture	5
5 & 16	Walton-le-Dale, St. Patrick's R.C.	Mixed	Mills (mostly) Agriculture	5
17 & 18	Shevington Broad o'th' Lane Council	Sparse	Miners and Agriculture	5
19 & 20	Blackrod Scot Lane End.	Urbanised	Miners	4
21 & 22	Standish St. Marie's R.C.	Urbanised	Miners	6
23	Standish Grammar (Boys)	Urbanised	Miners	5
24	Standish Girls'	Urbanised	Miners	6
25	Standish Infants'	Urbanised	Miners	5
26	Standish Grammar, Girls' and Infants'	Urbanised	Miners	...
27 & 28	Standish Lower Ground C.E.	Urbanised	Miners	4
29 & 30	Coppull Moor C.E.	Mixed	Miners	7
31 & 32	Shevington, Crooke Council	Medium	Miners	4
33	Walton-le-Dale, Brownedge Boys'	Urbanised	Mostly in Mills	4
34	Walton-le-Dale, Brownedge Girls' and Infants'	Urbanised	Mostly in Mills	5
35	Walton-le-Dale, Brownedge Boys', Girls', and Infants'	Urbanised	Mostly in Mills	...
36	Wrightington St. Joseph's	Sparse	Miners Agriculture	3

GRAPH 1



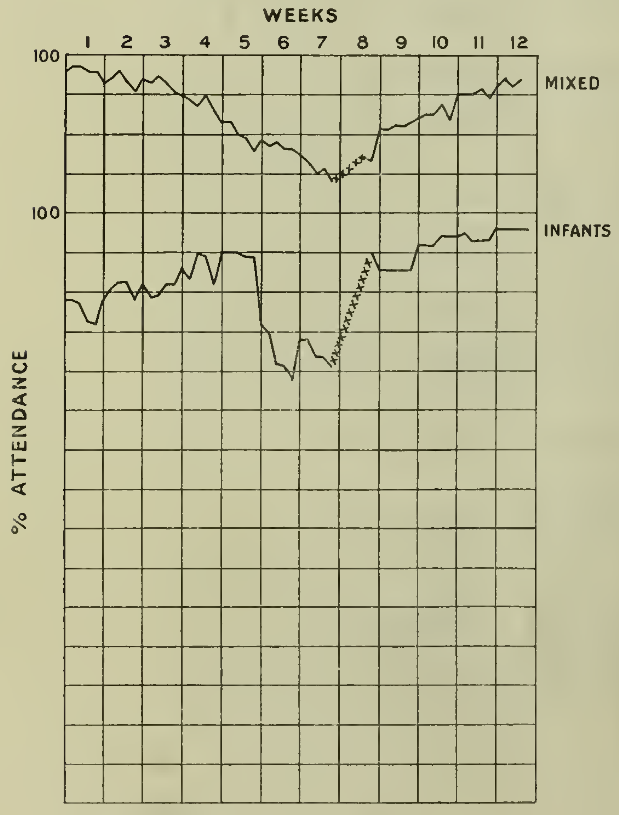
LONGTON Ct

GRAPH 2.



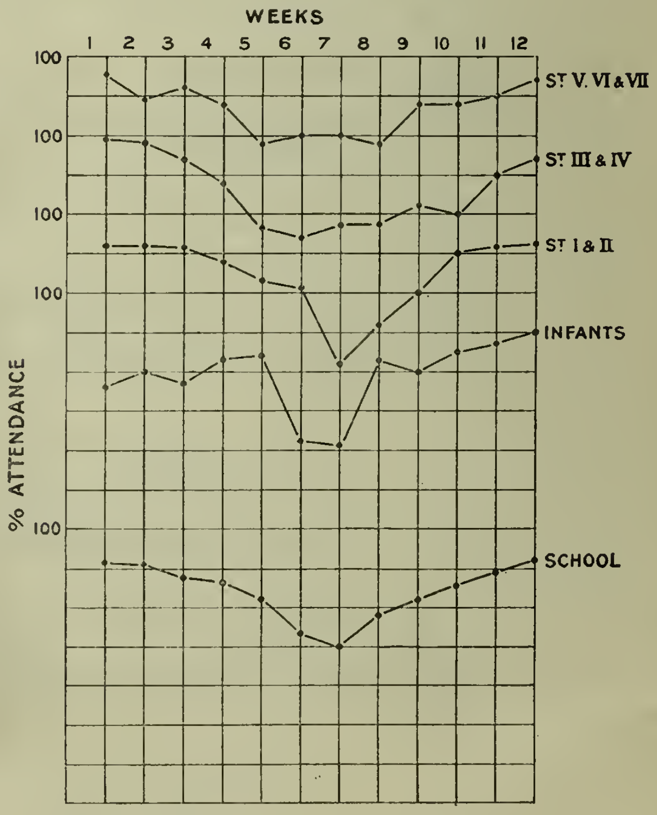
LONGTON Ct

GRAPH 3



WALMER BRIDGE

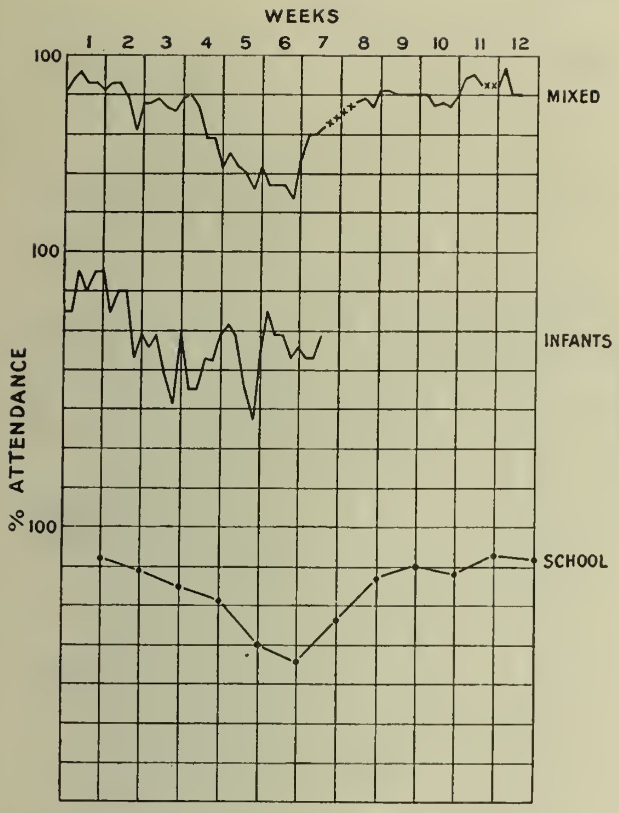
GRAPH 4



WALMER BRIDGE

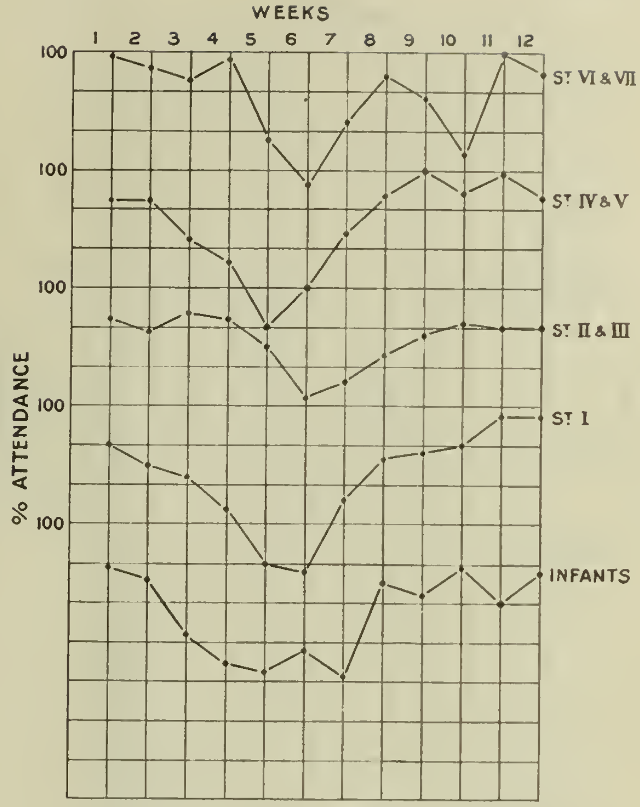
——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE •—•—• WEEKLY % ATTENDANCE

GRAPH 5



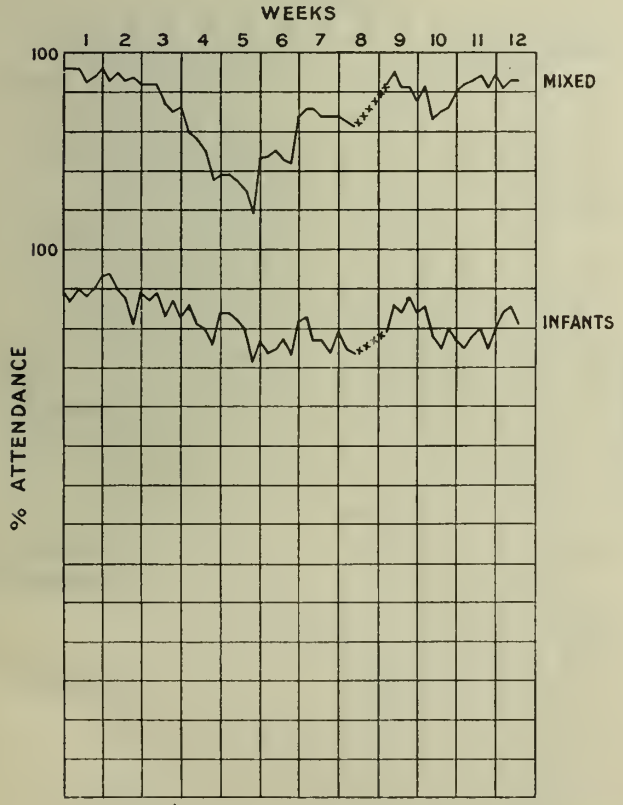
PENWORTHAM, COP LANE

GRAPH 6



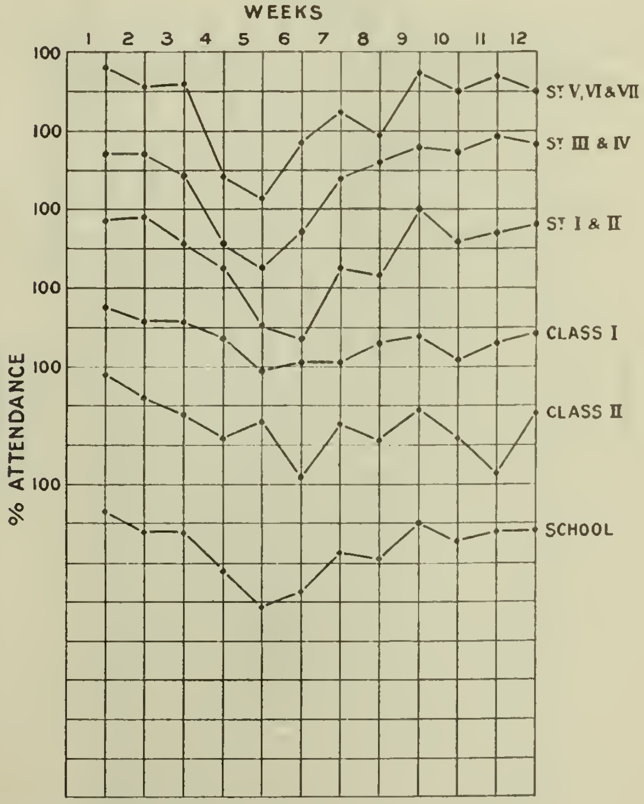
PENWORTHAM, COP LANE.

GRAPH 7.



BAMBER BRIDGE, WES.

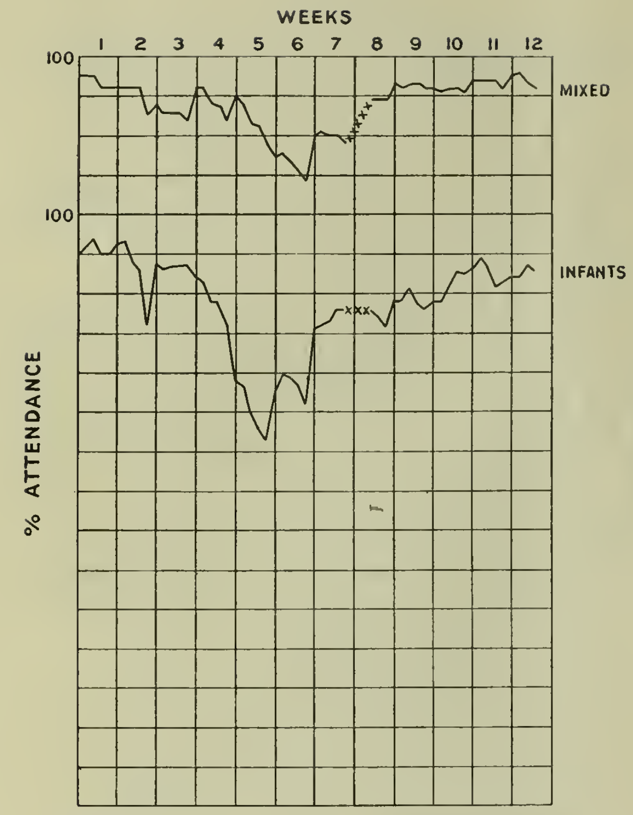
GRAPH 8



BAMBER BRIDGE, WES.

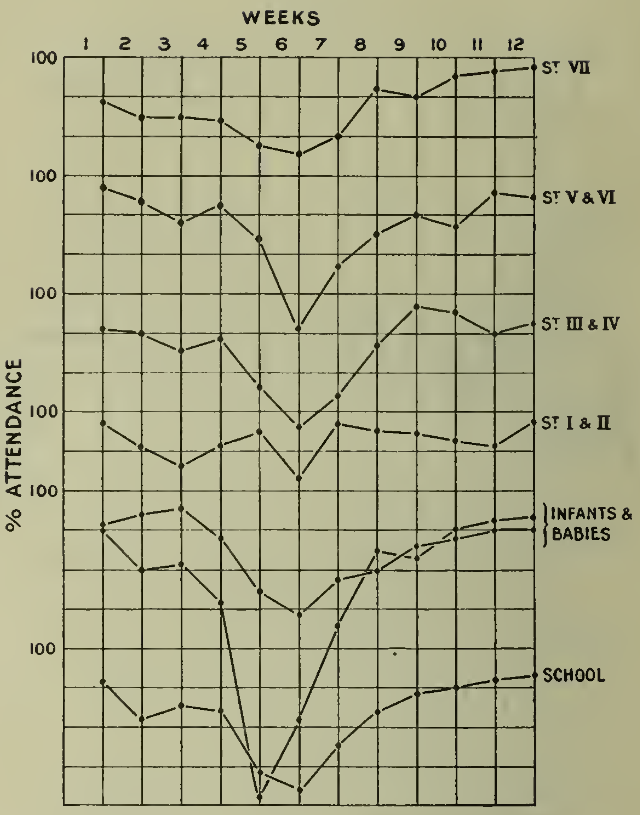
———— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE •—•—•— WEEKLY % ATTENDANCE

GRAPH 9



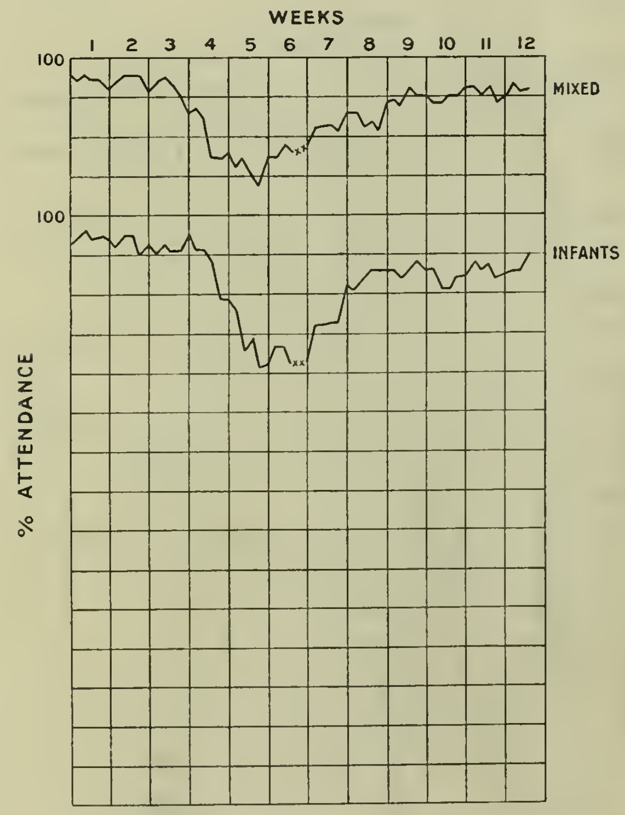
BAMBER BRIDGE, St SAVIOURS

GRAPH 10



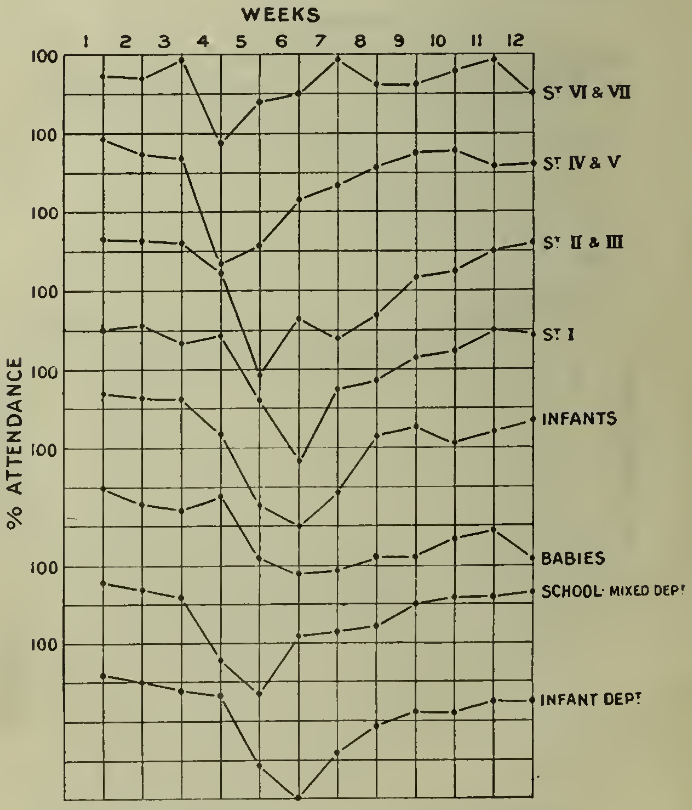
BAMBER BRIDGE, St SAVIOURS

GRAPH 11



WALTON-LE-DALE, SCHOOL LANE.

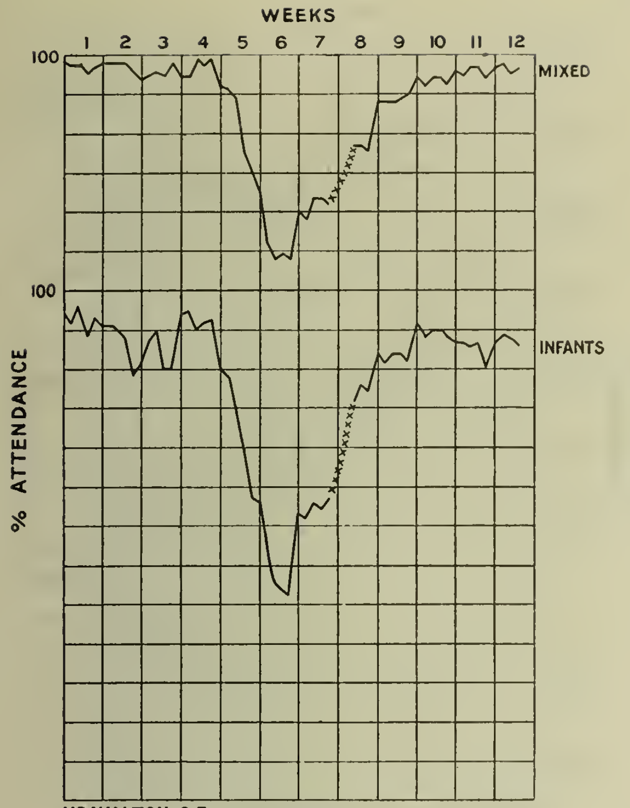
GRAPH 12



WALTON-LE-DALE, SCHOOL LANE.

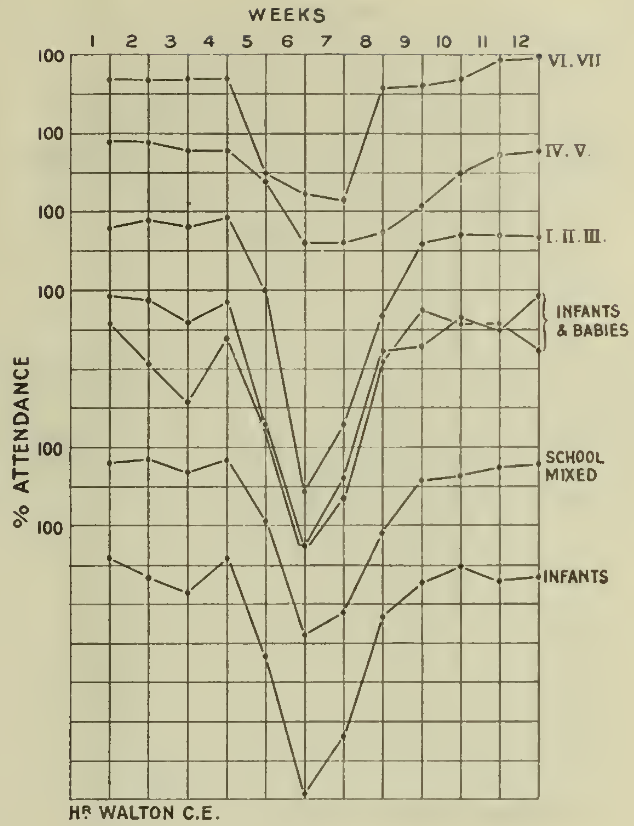
——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE —·—·— WEEKLY % ATTENDANCE

GRAPH 13



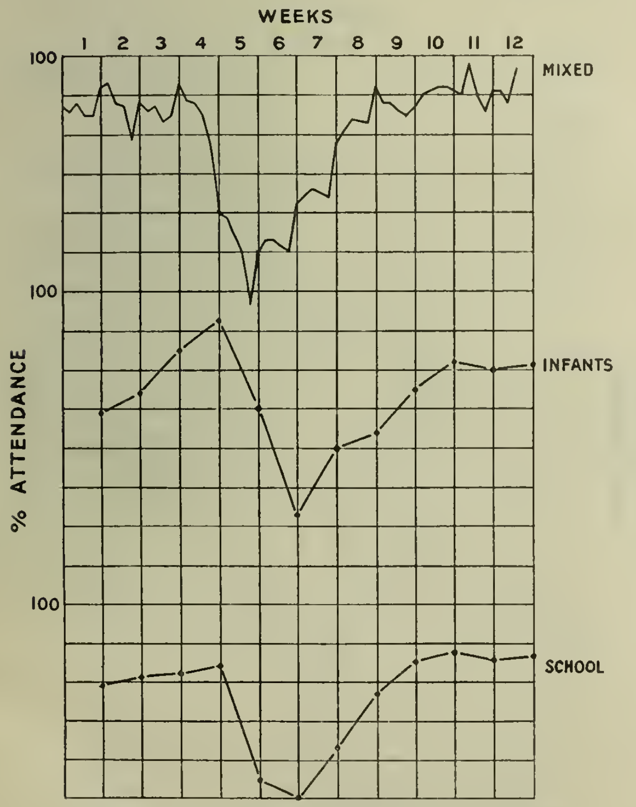
HR WALTON C.E.

GRAPH 14



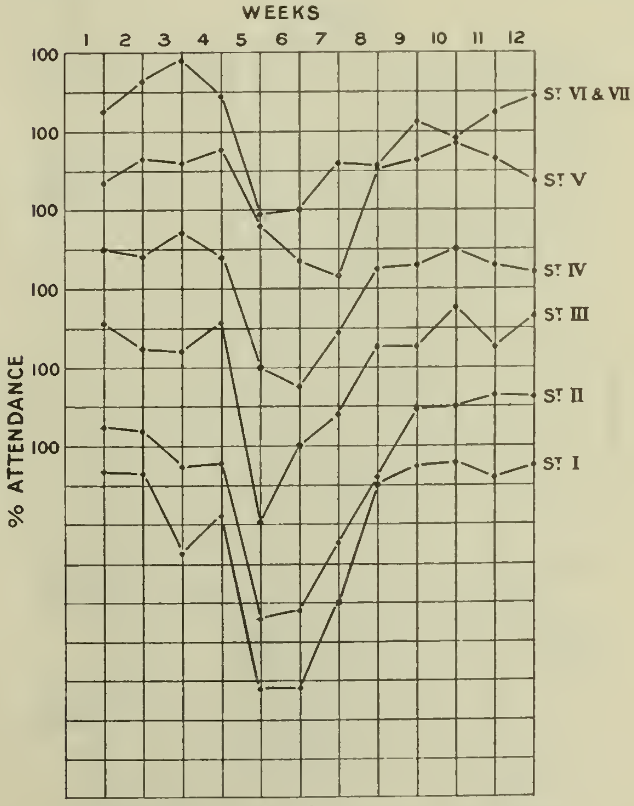
HR WALTON C.E.

GRAPH 15



WALTON-LE-DALE, ST PATRICK'S.

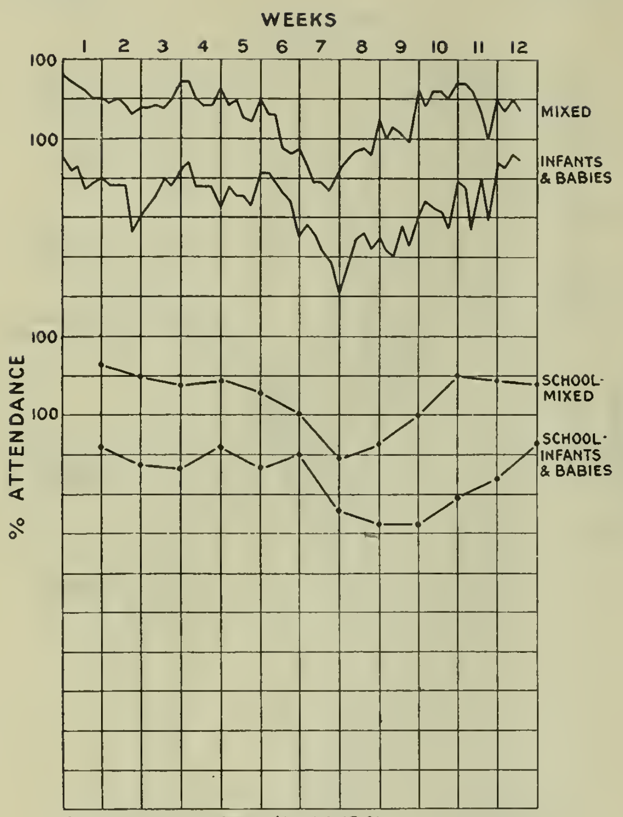
GRAPH 16



WALTON-LE-DALE, ST PATRICK'S.

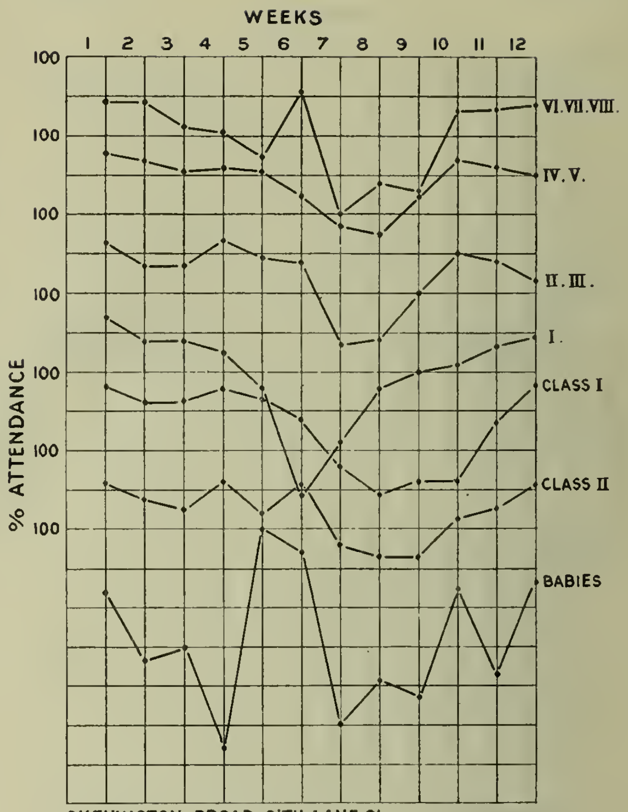
——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE ·—·—· WEEKLY % ATTENDANCE

GRAPH 17



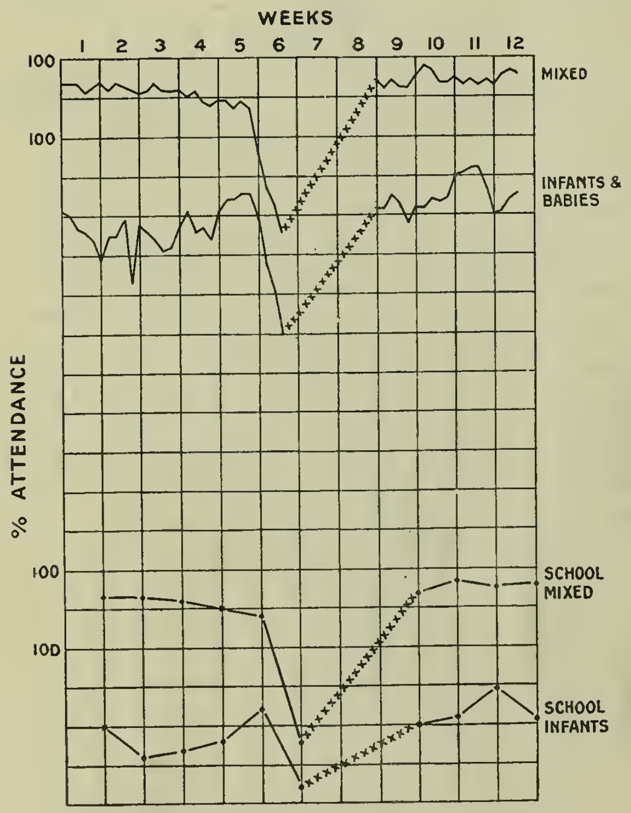
SHEVINGTON BROAD O'TH LANE C^E

GRAPH 18



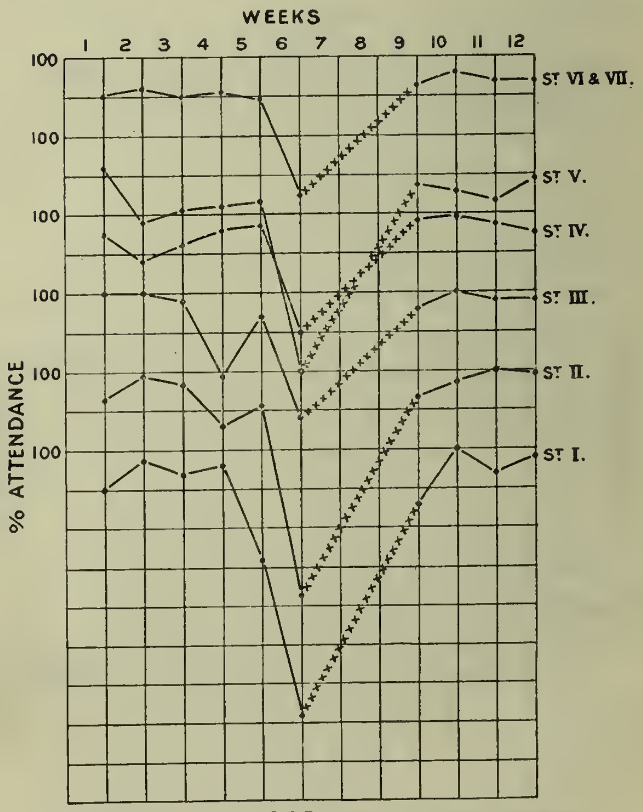
SHEVINGTON BROAD O'TH LANE C^E

GRAPH 19



BLACKROD SCOT LANE END C.E.

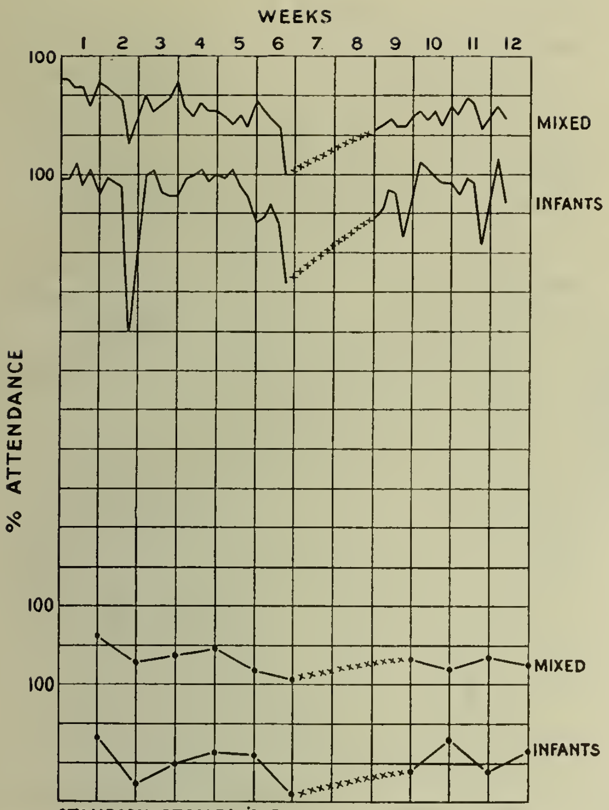
GRAPH 20



BLACKROD SCOT LANE END C.E.

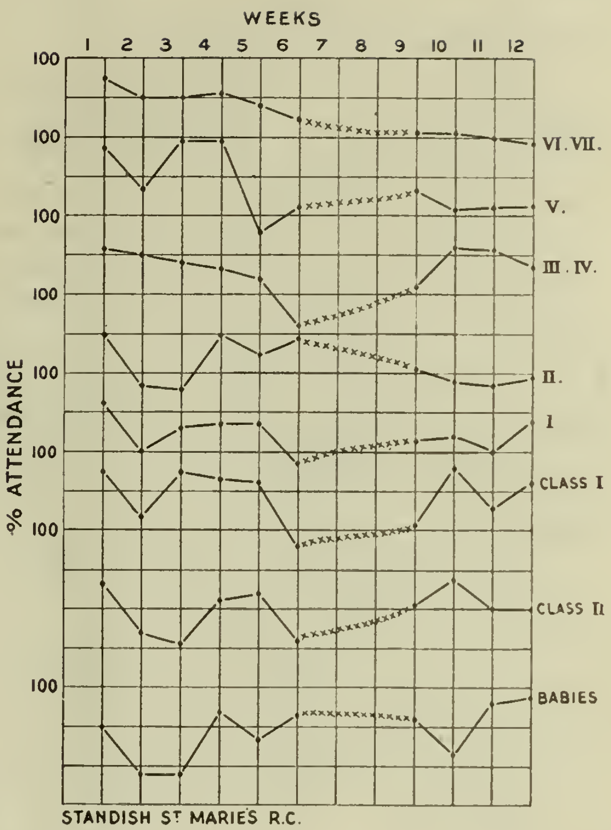
——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE —·—·— WEEKLY % ATTENDANCE

GRAPH 21



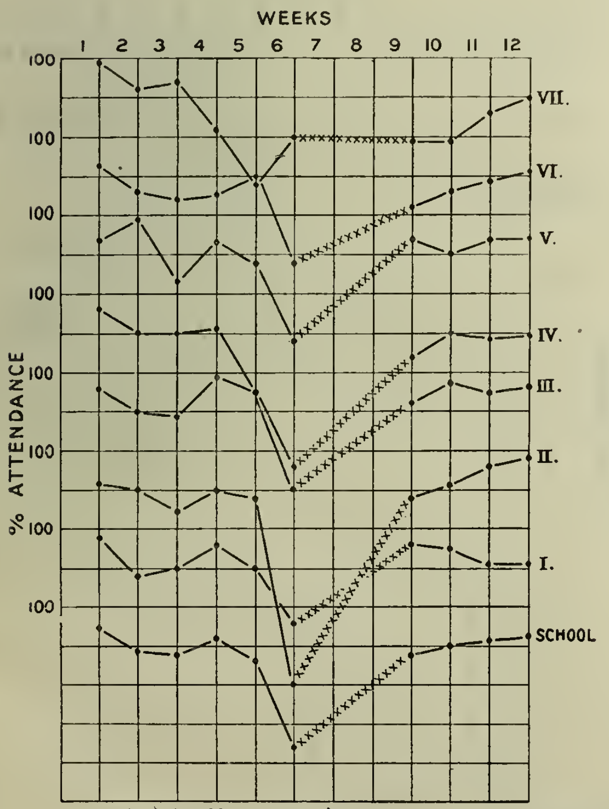
STANDISH ST MARIE'S R.C.

GRAPH 22



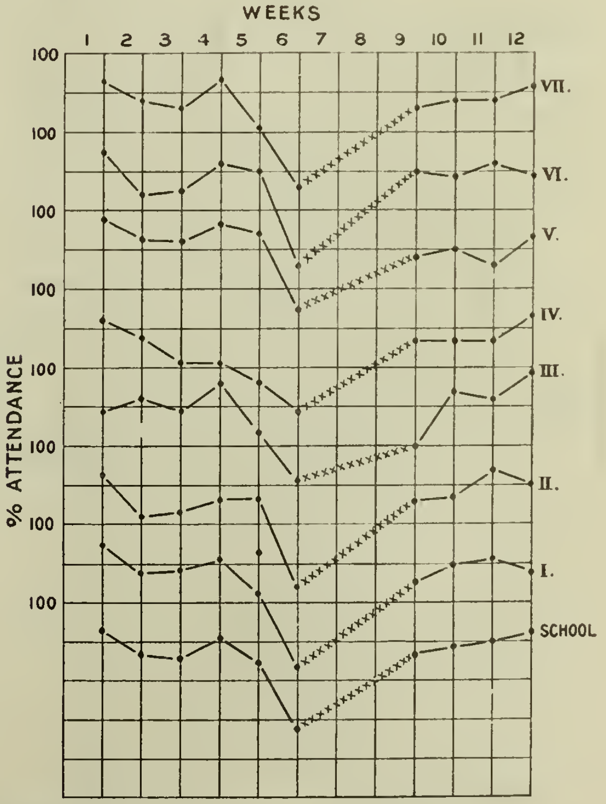
STANDISH ST MARIE'S R.C.

GRAPH 23



STANDISH GRAMMAR (BOYS)

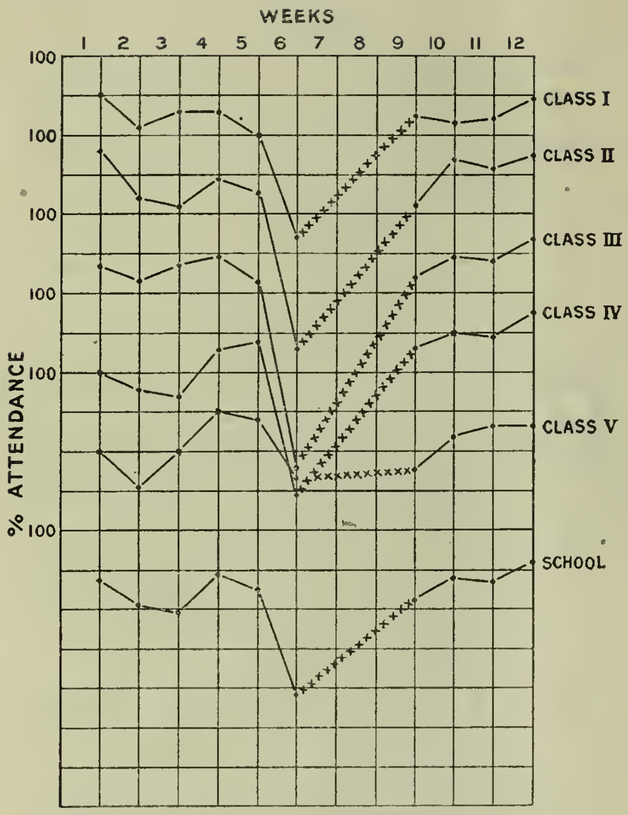
GRAPH 24



STANDISH GIRLS'

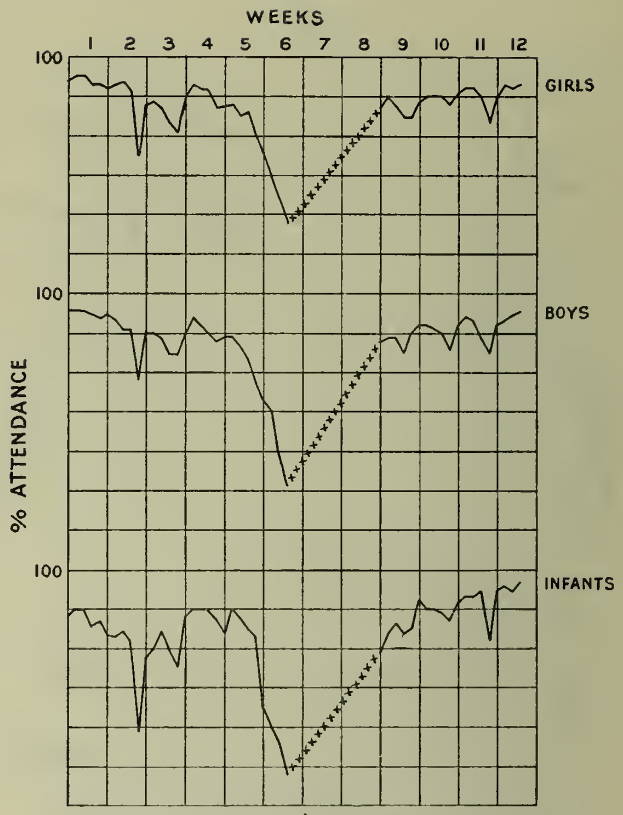
——— DAILY % ATTENDANCE xxxxxxxx PERIOD OF CLOSURE •—•—•— WEEKLY % ATTENDANCE

GRAPH 25



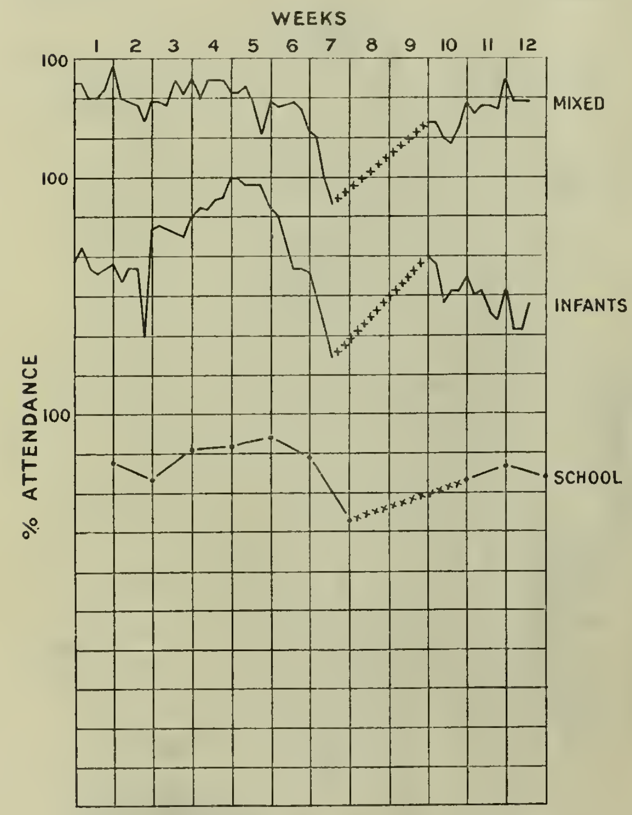
STANDISH INFANTS'

GRAPH 26



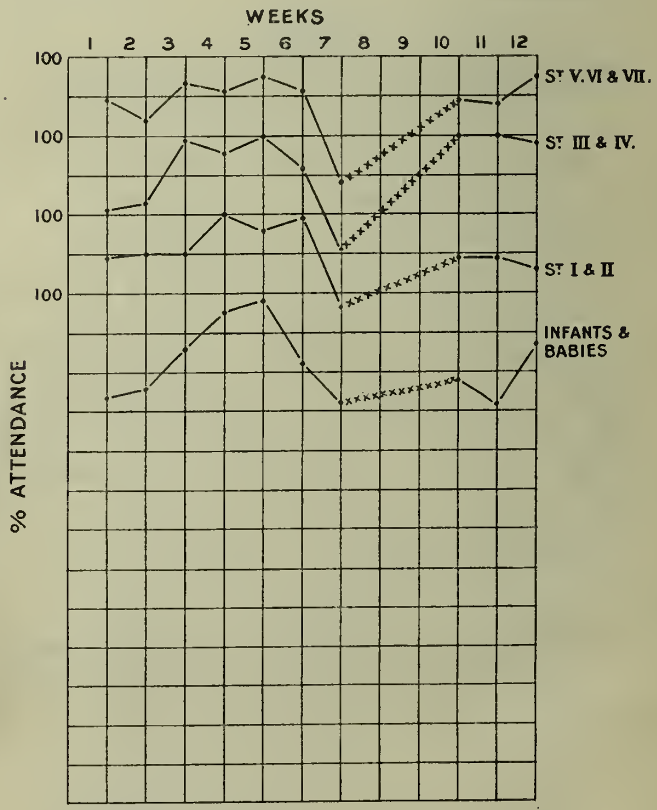
STANDISH GRAMMAR, GIRLS' & INFANTS'

GRAPH 27



STANDISH LR GROUND C.E.

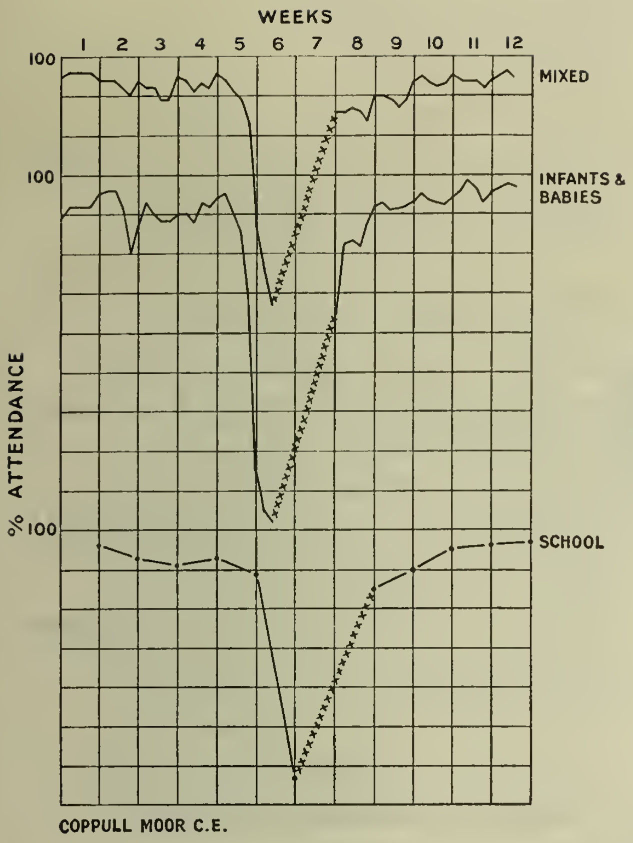
GRAPH 28



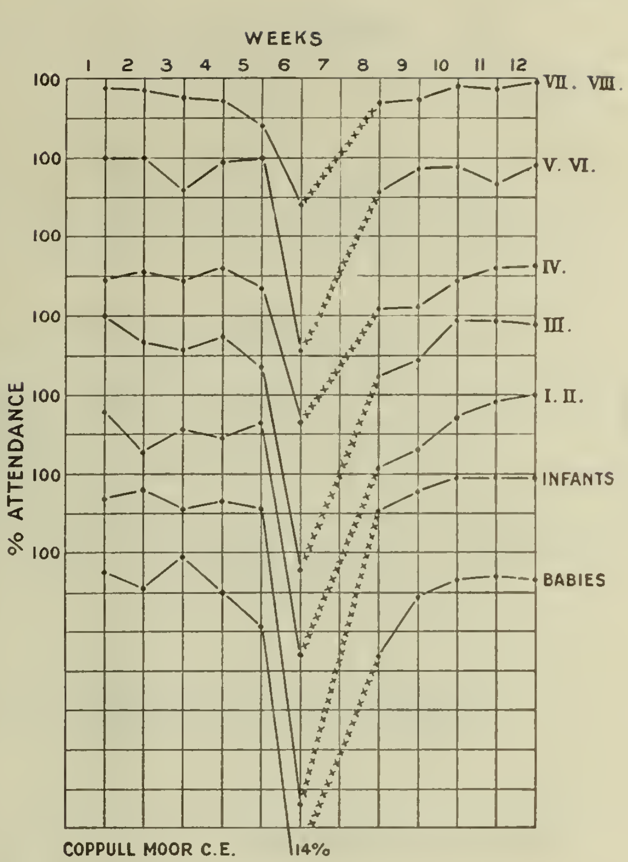
STANDISH LR GROUND C.E.

———— DAILY % ATTENDANCE　xxxxxxxx PERIOD OF CLOSURE　—·—·—WEEKLY % ATTENDANCE

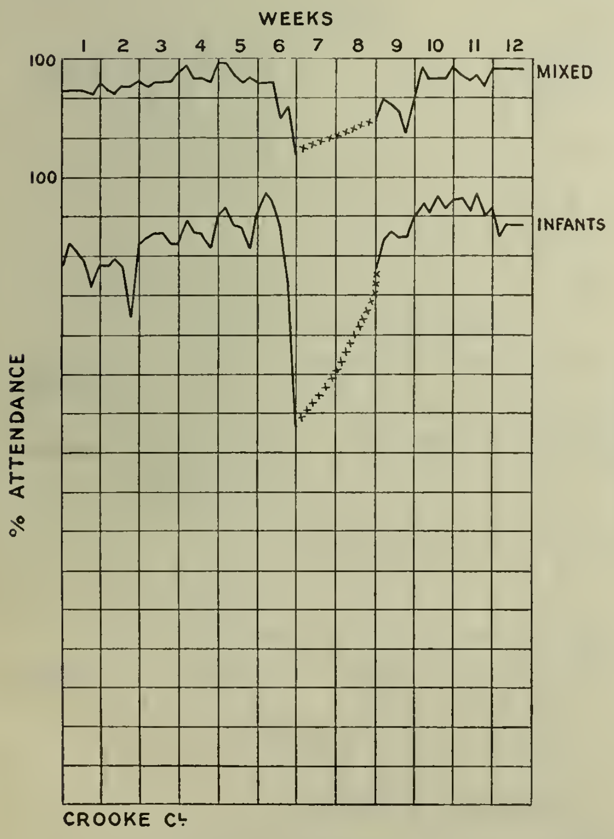
GRAPH 29



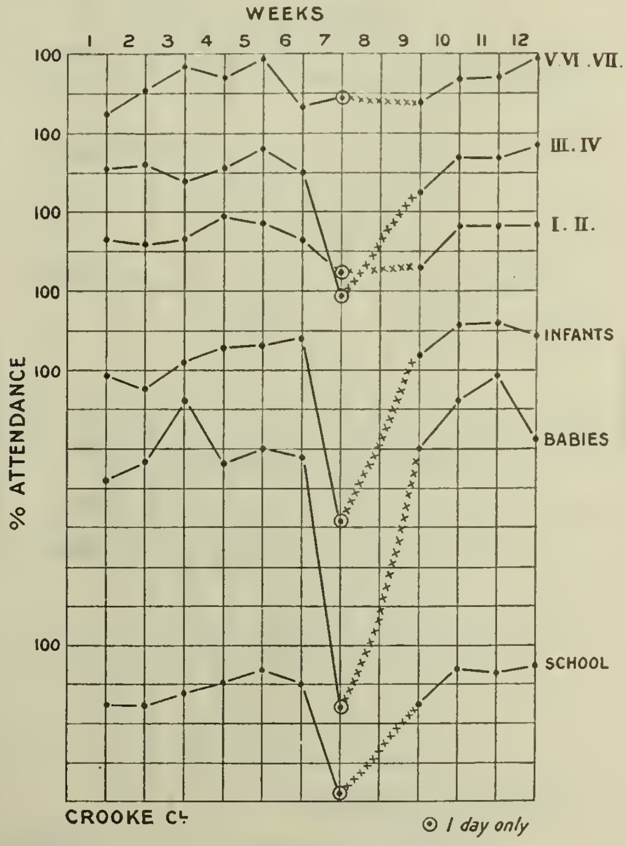
GRAPH 30



GRAPH 31

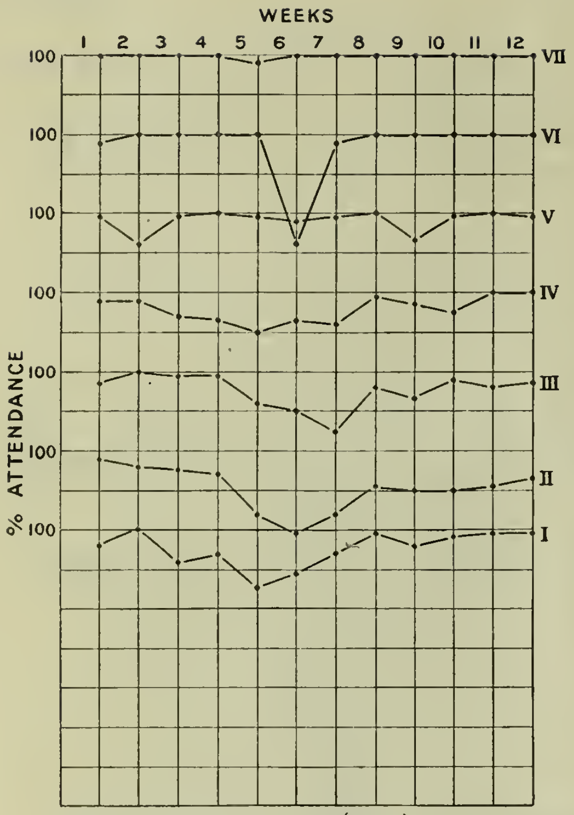


GRAPH 32



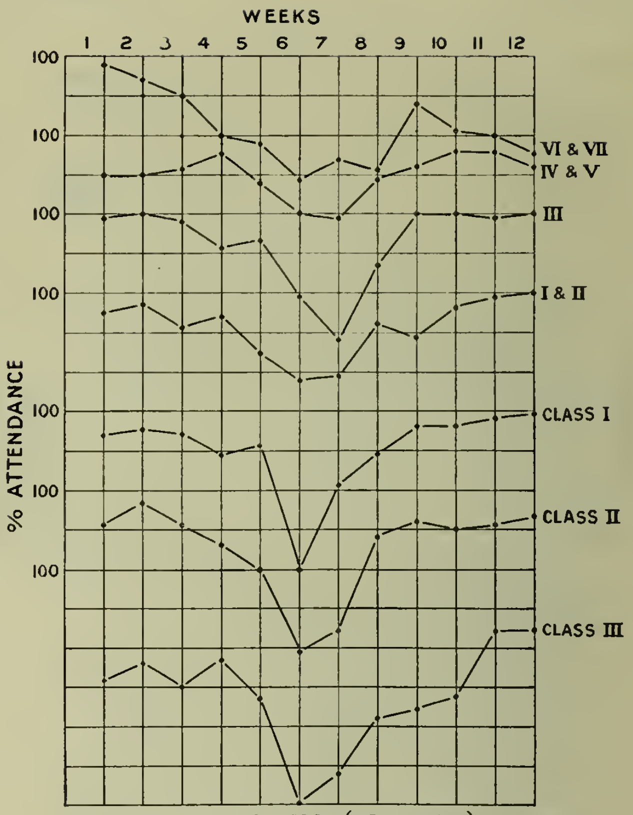
——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE ·—·—·— WEEKLY % ATTENDANCE

GRAPH 33



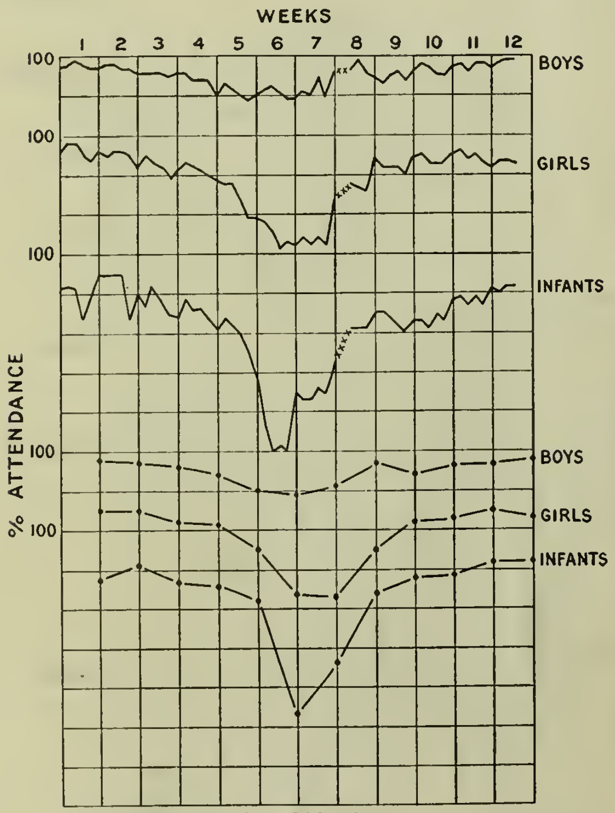
WALTON-LE-DALE, BROWNEDGE, (BOYS)

GRAPH 34



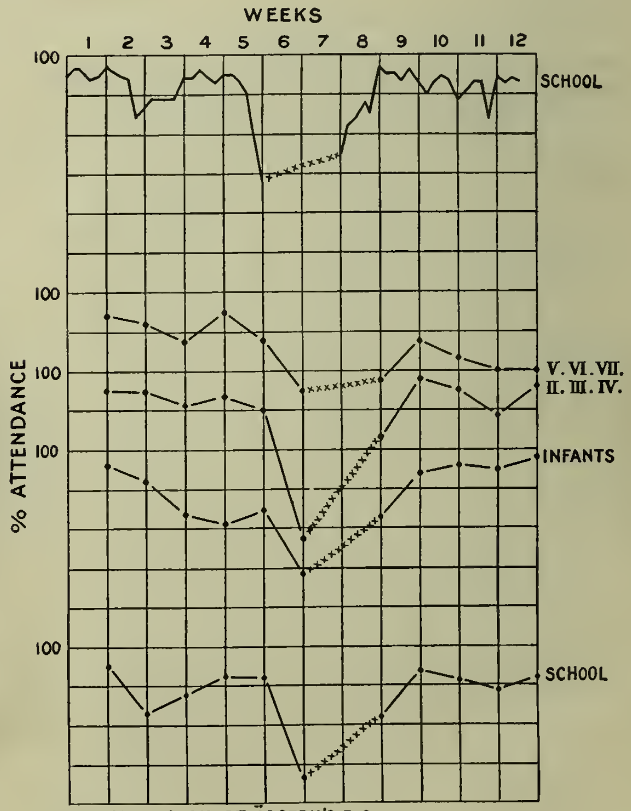
WALTON-LE-DALE, BROWNEDGE. (GIRLS & INFS.)

GRAPH 35



WALTON-LE-DALE. BROWEDGE R.C.

GRAPH 36



WRIGHTINGTON ST JOSEPH'S R.C.

——— DAILY % ATTENDANCE ×××××××× PERIOD OF CLOSURE —·—·— WEEKLY % ATTENDANCE

A SURVEY OF THE MENTALLY-BACKWARD CHILDREN ATTENDING SCHOOLS IN A LOCAL AREA.

The following brief article, contributed by Dr. G. H. Hutchinson, on mentally backward children in one of her areas, is interesting :—

During the routine examination of school children I was often presented with scholars who were, I was told by the teacher, unable to make any headway in class, or were mentally defective, or were dull and backward ; so I asked each of the head teachers from selected schools for a list of those children who were one or more standards behind in their work.

Only those children who were in the mixed departments were examined, as it is a difficult matter to decide who is one class behind in the Infant Departments.

The average attendance at the schools at which these investigations were made is 1,594, and the number of children presented for examination was 47. This gives a percentage of 2·95 children who are in attendance at schools, and who are, in the opinion of the teachers, either mentally defective or backward.

The tests used in the examination of these children were those known as " Stanford Revision Tests." These consist of tests so graded that the easiest will lie well within the range of normal three-year-old children, whilst the hardest test the intelligence of the average adult. The problems are designed primarily to test native intelligence and not school knowledge.

By the application of these tests the intelligence quotient is obtained, *i.e.*, the ratio between the mental age as given by the tests and the chronological age of the child. The result of these tests may be translated as follows in terms of intelligence quotient :—

Intelligence Quotient (I.Q.)	Classification.
Above 140	Near Genius.
120 to 140	Very superior intelligence.
110 to 120	Superior intelligence.
90 to 110	Normal or average intelligence.
80 to 90	Dullness, rarely classifiable as feeble-mindedness.
70 to 80	Bordering between dullness and feeble-mindedness.
Below 70	Feeble-minded.

I.Q. of 47 Children Examined.

Above 140	None.
Between 120 to 140	None.
Between 110 to 120	None.
Between 90 to 110	7.
Between 80 to 90	7.
Between 70 to 80	12.
Below 70	21.

In other words, out of this list of children seven are of normal or average intelligence, seven are dull, 12 may be either dull or feeble-minded, and 21 are definitely feeble-minded.

Why have these children been unable to keep up in their studies ? Is it a result of inherent brain deficiency, or the result of physical defects such as Defective Hearing, Sight, Speech, &c.

On analysis of the physical condition of these children it was found that of the seven who, by the tests, were of normal or average intelligence (but who are yet graded in the school below children of the same age)—

1 is suffering from Adenoids.

2 have been under medical supervision for Enlarged Cervical Glands and " Pre-tubercular " conditions.

2 have attended various schools (frequent changing of schools may easily cause disturbance in a child's mind).

2 have nothing noteworthy.

Of the seven who were classified under the heading "dullness—rarely feeble-mindedness"—

1 suffers from Hemiplegia.
1 has Infantile Paralysis.
1 has Adenoids.
1 is Anæmic and poorly nourished.
3 have nothing noteworthy.

Of the 12 who come under the classification "border-line between dullness and feeble-mindedness"—

1 has "Littles'" Disease.
3 have Adenoids or Enlarged Tonsils.
1 has High Myopia.
1 was in hospital for some time suffering from "Tumour of Tibia."
1 has Otitis Media and very Defective Hearing.
2 have attended the School Clinic at various times for minor ailments over prolonged periods.
1 has defective articulation.
2 have nothing noteworthy.

Of the 21 children testing below 70—

1 is a Mongol.
1 has defective articulation.
1 has Nystagmus and is poorly nourished.
1 has Debility following Pneumonia and Empyema.
4 have Adenoids.
1 has Tonsils and Adenoids.
1 has High Myopia and Otitis Media.
1 has Rheumatism.
1 is undersized and has Debility.
1 has Myopic Astigmatism.
3 have attended Minor Ailment Clinic periodically for a number of years.
5 have nothing noteworthy.

Of the seven normals, 42·8 per cent. are physically defective. (If we include the two who have changed schools we probably have the reason for the low grading of 70·8 per cent. of these normal children)—

Of the 7 Dulls, 57·1 per cent. are physically defective.
Of the 12 Borderline, 83·4 per cent. are physically defective.
Of the 21 below 70, 76·1 per cent. are physically defective.

GENERAL ANÆSTHESIA IN SCHOOL DENTISTRY.

Dr. I. F. McAsh, one of the Committee's Dental Surgeons, contributes the following paper relating to General Anæsthesia in School Dentistry. Dr. McAsh has taken a special interest in the subject of anæsthesia in dental practice.

The present observations are of 200 cases, all being children between the ages of 3 and 14 years. Particular attention has been paid to the general effect, during and after operation, of the anæsthetic, the presence of any alteration in colour, *e.g.*, pallor or cyanosis, and the results obtained by different methods of application and dosage. Nitrous oxide gas and ethyl chloride were used in every case; in 50 per cent. of the cases oxygen was administered in addition. In the "Guy Ross" apparatus, which admits of the use of oxygen, and is therefore to be preferred when dealing with children, two gallons of nitrous oxide and from 1 to 3 cubic centimetres of ethyl chloride are used per patient, while the amount of oxygen given is at the discretion of the anæsthetist, and varies from four to eight ounces or more, if necessary. The dose of ethyl chloride never exceeds 3 c.c.

The second apparatus used has one advantage, in that it is easily portable. The essential difference between the two methods is the lack of oxygen in the second case, while the dose of gas is one gallon.

The addition of ethyl chloride in both of these methods gives an advantage over nitrous oxide, and nitrous oxide-oxygen anæsthesia, particularly where several teeth are to be removed, as the operating period is increased greatly, while the cyanosis, so often observed in nitrous oxide anæsthesia, is absent.

When the patient has been prepared correctly, after-sickness is not common, and when present lasts only a few minutes. Out of 200 cases, 26 children were sick immediately on coming out of the anæsthesia, the majority of these vomiting swallowed blood, the nausea then passing away. In those cases which cannot be accounted for otherwise, it would appear that the composition and purity of the ethyl chloride figure largely in the production of nausea and sickness after anæsthesia, and in this connection slight differences are to be found even between tubes prepared by the same firm.

The institution of general anæsthesia by these methods has proved very useful, and in another branch of clinic work, namely, the treatment of expectant and nursing mothers, it is now indispensable. In no case has there been the slightest cause for anxiety either in dealing with children or mothers. Children are excluded from school for the remainder of the day, after operation, and in the majority of cases attend school the following day. In every case a separate anæsthetist is employed, either the Medical Officer or a dental colleague acting in that capacity.

Sex and Age.	C_2H_5Cl. (C.C.S.).	N_2O (Gals.).	O_2 (Ounces).	(Secs.) Induction.	(Secs.) Duration.	No. of Teeth Ext.	REMARKS.
Years							
M. 11	2	2	6	60	60	4	Slight sickness
M. 7	1·5	1	...	30	45	9	Nil. Abnormal
F. 10	2	1	...	60	55	10	Nervous patient
F. 13	3	1	...	30	50	5	Nil
F. 13	3	1	...	40	50	4	Slight sickness
F. 9	2	1	...	60	70	6	Jactitation
F. 11	3	1	...	55	60	3	Nil
M. 13	2	1	...	60	45	8	Nil
F. 9	2	1	...	50	60	2	Nil
F. 8	2	2	6	55	55	3	Nil
M. 11	2	2	6	65	70	2	Nil
M. 10	2	2	6	60	65	2	Nil
M. 12	2	2	4	55	60	2	Nil
F. 5	2	2	6	30	25	8	Struggling
F. 11	2	2	6	75	80	2	Nil
M. 8	2	2	8	70	65	8	Nil
F. 13	2	2	6	65	40	3	Nil
F. 9	2	2	6	45	55	3	Nil
F. 7	2	2	6	50	80	5	Nil
F. 9	2	2	4	60	60	3	Nil
M. 10	2	2	4	55	60	2	Nil
F. 8	2	2	6	40	55	7	Nil
F. 8	2	2	6	65	60	13	After-sickness
M. 12	2	2	6	60	80	4	Nil
M. 11	2	2	4	65	65	3	Nil
F. 13	2	2	6	65	60	1	Nil
F.. 12	2	2	6	60	55	3	After-sickness
F. 13	2	2	6	60	70	2	After-sickness
M. 13	2	2	6	40	60	1	Nil
F. 12	2	2	6	60	60	2	Nil
F. 12	2	2	6	60	55	1	Nil
M. 12	2	2	6	60	60	5	Nil
F. 12	2	2	4	55	60	2	Nil
F. 11	2	2	6	50	55	3	After-sickness
F. 11	2	2	6	65	65	5	Nil. Abnormal
F. 13	2	2	6	60	65	6	Nil
F. 4	2	1	...	55	60	7	Nil
M. 7	2	1	...	60	45	6	Nil
M. 7	2	1	...	60	75	8	Nil
M. 8	2	1	...	65	85	6	Struggling
M. 6	2	1	...	65	65	9	Nil
M. 13	2	1	...	60	70	1	Nil
M. 15	3	1	...	70	75	4	Nil
M. 9	2	1	...	65	70	2	Nil

Sex and Age.	C_2H_5Cl. (C.C.S.).	N_2O (Gals.).	O_2 (Ounces).	(Secs.) Induction.	(Secs.). Duration.	No. of Teeth Ext.	REMARKS.
Years							
F. 12	2	2	2	55	50	3	Nil
M. 9	2	2	6	60	65	3	Nil
F. 12	2	2	6	55	60	2	Nil
M. 11	2	2	4	60	40	2	Nil
M. 9	2	2	4	55	40	7	Nil
F. 11	2	2	8	100	60	2	Nil
F. 14	2·5	2	8	70	50	2	Struggling
F. 9	2·5	2	6	90	70	4	Nil
M. 14	2	1	...	40	20	1	Nervous patient
M. 5	2	1	...	60	80	14	Slight cyanosis
M. 12	2·5	1	...	40	50	1	Nil
M. 9	2	1	...	45	35	5	Nil
F. 3	1	1	...	30	25	10	History of fits. Good anæs.
F. 11	2	1	...	65	70	9	Nil
M. 12	2	1	...	60	65	2	After-sickness (meal)
F. 10	2	1	...	60	25	2	Struggling
F. 13	2	1	...	60	50	9	Kyphotic patient
F. 6	1·5	1	...	50	50	6	Nil
F. 7	2	1	...	40	50	12	Struggling
M. 11	2	1	...	40	45	5	Cyanosis ; 2 breaths air
M. 11	2	1	...	40	50	4	Struggling
F. 10	2	1	...	60	60	5	Struggling
M. 5	2	1	...	30	50	10	Cleft palate
F. 7	2	1	...	40	50	6	Struggling
F. 10	2	1	...	60	45	3	Nil
F. 7	2	2	4	60	40	8	Nil
M. 10	2	2	4	50	65	2	Nil
M. 13	2	2	4	55	60	2	Nil
F. 12	2	2	4	60	55	5	Nil
M. 10	2	2	4	60	60	3	Nervous patient
M. 10	2	2	4	60	55	2	Nervous patient
F. 11	2	2	4	50	55	3	Very nervous patient
F. 10	2	2	4	60	60	1	Nil
M. 13	2	2	4	55	60	2	Nil
F. 12	2	2	4	55	55	1	Nil
M. 12	2	2	2	50	45	1	Nil
M. 11	2	2	4	55	50	3	Nil
M. 12	2	2	4	55	50	1	Nil
F. 11	2	2	4	65	60	2	Nil
F. 12	2	2	4	50	65	1	Nil
F. 9	2	2	4	60	60	5	Nil
M. 11	2	2	4	55	60	1	After-sickness
M. 12	2	2	6	55	50	3	Nil
F. 9	2	2	4	60	65	1	Nil
F. 13	2	2	6	50	60	1	Nil
F. 10	2	2	4	55	50	5	Nil
F. 12	2	2	4	55	55	2	Nil
F. 13	2	2	4	55	70	3	Nil
M. 11	2	2	4	60	65	3	Nil
F. 11	2	2	4	50	45	3	Nil
F. 5	2	2	4	60	55	8	Nil
F. 12	2	2	4	55	60	4	Nil
F. 13	2	2	4	60	60	3	Nil
F. 11	2	2	6	55	60	2	Nil
M. 10	2	2	4	55	50	5	Nil
M. 11	2	1	...	45	45	3	Nil
F. 11	2	1	...	60	50	5	Nil
F. 9	2	1	...	50	50	6	Nil
F. 10	1	1	...	45	40	10	Nil
M. 5	2	1	...	50	55	10	Nil
M. 8	2	1	...	45	45	3	Nil
F. 6	1·5	1	...	30	45	6	Nil
F. 12	2	1	...	75	80	3	Nil
F. 5	1·5	1	...	45	45	3	Nil
F. 7	2	1	...	65	65	10	After-sickness

Sex and Age.	C_2H_5Cl (C.C.S.).	N_2O (Gals.).	O_2 (Ounces).	(Secs.) Induction.	(Secs.). Duration.	No. of Teeth Ext.	REMARKS.
Years							
F. 7	2	1	...	70	65	7	After-sickness
F. 10	2	1	...	60	75	4	After-sickness
F. 12	2	1	...	60	65	3	After-sickness
F. 10	2	1	...	70	75	3	Struggling
M. 9	2	1	...	60	70	5	After-sickness
M. 13	2	1	...	70	75	2	After-sickness
F. 10	2	1	...	70	65	8	Nil
M. 13	2	1	...	70	80	3	Nil
M. 10	2	1	...	65	65	4	Nil
M. 10	2	1	...	65	70	8	Nil
M. 10	2	1	...	65	75	3	Nil
M. 7	2	1	...	60	70	10	After-sickness
M. 6	2	1	...	70	110	10	After-sickness
F. 13	2	1	...	75	100	7	Nil
F. 7	2	1	...	65	80	2	Nil
F. 9	2	1	...	60	45	2	Nil
F. 13	2	1	...	55	55	4	After-sickness
F. 10	2	1	...	60	30	8	Very nervous patient
M. 12	2	1	...	60	50	6	Struggling
M. 12	2	1	...	60	50	2	Nil
M. 8	2	1	...	40	40	3	Nil
F. 10	2	1	...	60	55	1	Nil
M. 10	2	1	...	60	55	11	Cyanosis
M. 10	2	1	...	60	55	1	Cyanosis. Obstruction by tongue
F. 14	2	2	4	65	75	2	Nil
M. 13	2	2	4	65	70	2	After-sickness
M. 11	2	2	6	55	75	3	Slight cyanosis
M. 9	2	2	4	55	70	6	Nil
M. 13	2	2	4	70	70	1	Nil
M. 12	2	2	4	75	65	8	Nil
M. 13	2	2	6	60	70	3	After-sickness
F. 12	2	2	4	70	75	2	Nil
M. 12	2	2	4	65	80	3	Sick ; no preparation
F. 11	2	2	4	60	50	1	Nil
F. 12	2	2	4	55	60	1	Nil
F. 12	2	2	4	60	65	2	Nil
F. 13	2	2	4	75	70	3	Nil
F. 11	2	2	4	65	70	4	Nervous patient
M. 13	2	2	4	60	65	3	Nervous patient
F. 9	2	2	4	70	80	3	Nil
F. 13	2	2	4	65	80	2	Nil
M. 11	1	1	...	50	60	1	Nil
F. 11	2	1	...	40	55	5	Nil
F. 10	2	1	...	55	60	1	Nil
M. 10	2	1	...	55	60	3	After-sickness
F. 8	2	1	...	80	85	12	Struggling
M. 11	2	1	...	75	65	2	After-sickness
M. 10	2	1	...	65	60	4	After-sickness
M. 9	2·5	1	...	55	60	8	Nil
F. 14	3	1	...	60	90	7	Nil
F. 8	2	1	...	55	75	2	Slight cyanosis
M. 10	2	1	...	50	50	6	Nil
F. 11	2	1	...	70	80	2	After-sickness
F. 10	2	1	...	65	80	5	Nil
F. 7	2	1	...	65	95	12	Nil
F. 12	2	1	...	70	75	3	Nil
F. 12	2	1	...	60	90	2	Nil
F. 12	2	1	...	65	90	2	Nil
F. 12	2	1	...	70	85	2	After-sickness
F. 12	2	1	...	70	85	9	Nil
F. 13	2	1	...	60	50	2	Nil
M. 6	2	1	...	65	75	9	Nil
M. 12	2	1	...	55	65	4	Nil

Sex and Age.	C_2H_5Cl. (C.C.S.).	N_2O (Gals.).	O_2 (Ouuces).	(Secs.) Induction.	(Secs.) Duration.	No. of Teeth Ext.	REMARKS.
Years							
M. 11	2	1	...	55	75	1	Nil
F. 12	2	1	...	65	75	2	After-sickness
M. 11	2	1	...	70	65	11	Nil
M. 13	2	1	...	75	90	3	Nil
M. 11	2	1	...	65	75	1	Nil
F. 6	2	2	4	60	65	8	Nil
F. 8	2	2	4	60	70	3	Nil
M. 10	2	2	4	75	95	3	Nil
M. 13	2	2	4	65	60	1	Nil
M. 12	2	2	4	75	65	2	Nil
M. 13	2	2	4	70	75	2	Nil
F. 14	2	2	4	65	70	1	Nil
F. 8	2	2	4	65	75	6	Nil
F. 11	2	2	4	70	70	2	Nil
F. 12	2	2	4	55	65	1	Nil
M. 11	2	2	4	60	45	1	Nil
M. 6	2	2	4	65	55	10	Nil
F. 6	2	2	4	50	65	10	Nil
M. 13	2	2	4	75	85	8	Nil
M. 12	2	2	4	60	85	1	Nil
M. 11	2	1	...	75	60	3	Nil
F. 14	2·5	1	...	55	65	2	Nil
F. 14	2·5	1	...	50	65	5	Nil
F. 8	2	1	...	55	90	3	Nil
M. 12	2	1	...	60	70	1	Nil
M. 13	2	1	...	75	70	4	Nil
F. 6	1	1	...	40	55	3	Nil
M. 7	2	1	...	75	55	7	Struggling

APPENDIX.

STATISTICAL TABLES IN RESPECT OF THE ROUTINE INSPECTION OF ELEMENTARY SCHOOLS CARRIED OUT DURING THE YEAR ENDED 31ST DECEMBER, 1927.

TABLE I.—Return of Medical Inspections.

A.—Routine Medical Inspections.

Number of Code Group Inspections—		
Entrants	14,774	
Intermediates	8,865	
Leavers	10,549	
Total		34,188
Number of other Routine Inspections		...

B.—Other Inspections.

Number of Special Inspections	16,438	
Number of Re-inspections at routine medical inspections of schools	17,500	
Total		33,938
Number of children examined at re-visits to schools by Medical Officers	13,678	

TABLE II.

A.—Return of Defects found in the course of Medical Inspection in 1927.

	Defect or Disease.	Routine Inspections.		Specials.	
		Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.	Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.
	Malnutrition	37	703	10	631
Skin.	Ringworm—				
	Scalp	47	7	39	5
	Body	26	1	13	2
	Scabies	9	...	8	1
	Impetigo	273	78	106	36
	Other Diseases (Non-Tubercular)	181	161	65	45
Eye.	Blepharitis	226	174	69	88
	Conjunctivitis	83	58	39	17
	Keratitis	2	5	6	1
	Corneal Opacities	13	35	4	18
	Defective Vision	1,351	1,543	851	612
	Squint	254	353	106	139
	Other Conditions	2	2	9	...
Ear.	Defective Hearing	140	177	40	71
	Otitis Media	148	69	67	34
	Other Ear Diseases	142	55	25	8
Nose and Throat.	Enlarged Tonsils	431	2,915	162	676
	Adenoids	92	309	61	116
	Enlarged Tonsils & Adenoids	368	613	226	287
	Other Conditions	...	...	...	...
	Enlarged Cervical Glands (Non-Tubercular)	31	3,007	21	544

TABLE II.—Continued.

	DEFECT OR DISEASE.	Routine Inspections.		Specials.	
		Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.	Number referred for Treatment.	Number requiring to be kept under observation, but not referred for Treatment.
	Defective Speech	8	175	5	66
	Teeth—Dental Diseases	3,687	3,665	979	2,003
Heart and Circulation	Heart Disease—				
	Organic	9	168	2	106
	Functional	4	607	3	391
	Anæmia	65	231	24	139
Lungs.	Bronchitis	138	505	31	108
	Other Non-Tubercular Diseases	15	198	4	114
Tuberculosis.	Pulmonary—				
	Definite	3	...	2	...
	Suspected	5	18	2	27
	Non-Pulmonary—				
	Glands	10	17	8	6
	Spine	...	3	...	3
	Hip	1	3	3	2
	Other Bones and Joints	...	4	...	1
	Skin	5	2	...	1
	Other Forms	...	...	...	...
Nervous System.	Epilepsy	2	14	2	10
	Chorea	7	11	5	13
	Other Conditions	15	31	3	20
Deformities	Rickets	26	171	3	25
	Spinal Curvature	40	45	18	20
	Other Forms	109	358	50	108
	Other Defects and Diseases ...	281	672	112	260

B.—NO. OF INDIVIDUAL CHILDREN FOUND AT ROUTINE MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

GROUP.	NUMBER OF CHILDREN.		Percentage of children found to require Treatment.
	Inspected.	Found to require Treatment.	
Code Groups—			
Entrants	14,774	1,058	7·16
Intermediates	8,865	903	10·18
Leavers	10,549	230	11·65
Total	34,188	3,191	9·33
Other routine inspections ...	...	...	...

TABLE III.—NUMERICAL RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA IN 1927.

			Boys.	Girls.	Total.
Blind (including partially blind)	(i.) Suitable for training in a School or Class for the totally blind	Attending Certified Schools or Classes for the Blind ...	12	11	23
		Attending Public Elementary Schools	2	...	2
		At other Institutions	...	...	...
		At no School or Institution ...	4	7	11
	(ii.) Suitable for training in a School or Class for the partially blind	Attending Certified Schools or Classes for the Blind ...	11	16	27
		Attending Public Elementary Schools	38	24	62
		At other Institutions	...	...	...
		At no School or Institution ...	10	6	16
Deaf (including deaf and dumb and partially deaf)	(i.) Suitable for training in a School or Class for the totally deaf or deaf and dumb	Attending Certified Schools or Classes for the Deaf... ...	27	28	55
		Attending Public Elementary Schools	2	3	5
		At other Institutions	...	...	...
		At no School or Institution ...	...	2	2
	(ii.) Suitable for training in a School or Class for the partially deaf	Attending Certified Schools or Classes for the Deaf... ...	25	12	37
		Attending Public Elementary Schools	28	17	45
		At other Institutions	...	...	...
		At no School or Institution ...	...	1	1
Mentally Defective	Feebleminded (cases not notifiable to the Local Control Authority)	Attending Certified Schools for Mentally Defective Children	2	1	3
		Attending Public Elementary Schools	231	131	362
		At other Institutions	...	...	...
		At no School or Institution ...	35	23	58
	Notified to the Local Control Authority during the year	Feebleminded	3	2	5
		Imbeciles	11	5	16
		Idiots	3	2	5
Epileptics	Suffering from severe epilepsy	Attending Certified Special Schools for Epileptics ...	2	2	4
		In Institutions other than Certified Special Schools ...	...	...	...
		Attending Public Elementary Schools	20	12	32
		At no School or Institution ...	10	10	20
	Suffering from epilepsy which is not severe	Attending Public Elementary Schools	98	50	148
		At no School or Institution ...	11	4	15
Physically Defective	Infectious pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board...	...	1	1
		At other Institutions	1	...	1
		At no School or Institution ...	15	18	33

TABLE III.—Continued.

			Boys.	Girls.	Total.
Physically Defective (*contd.*)	Non-infectious but active pulmonary and glandular tuberculosis	At Sanatoria or Sanatorium Schools approved by the Ministry of Health or the Board...	...	...	...
		At Certified Residential Open Air Schools	...	...	...
		At Certified Day Open Air Schools	...	...	...
		At Public Elementary Schools	70	49	119
		At other Institutions	...	...	...
		At no School or Institution ...	5	9	14
	Delicate children (*e.g.*, pre or latent tuberculosis, malnutrition, debility, anæmia, &c.)	At Certified Residential Open Air Schools	...	...	...
		At Certified Day Open Air Schools	...	...	...
		At Public Elementary Schools	366	297	663
		At other Institutions	...	...	...
		At no School or Institution ...	23	35	58
	Active non-pulmonary tuberculosis	At Sanatoria or Hospital Schools approved by the Ministry of Health or the Board...	...	...	...
		At Public Elementary Schools	66	43	109
		At other Institutions	...	...	...
		At no School or Institution ...	18	15	33
	Crippled Children (other than those with active tuberculous disease), *e.g.*, children suffering from paralysis, &c., and including those with severe heart disease	At Certified Hospital Schools...	26	23	49
		At Certified Residential Cripple Schools	...	...	...
		At Certified Day Cripple Schools	...	...	...
		At Public Elementary Schools	657	570	1227
		At other Institutions	...	...	...
		At no School or Institution ...	181	149	330

TABLE IV.—RETURN OF DEFECTS TREATED DURING 1927.

Group I.—Minor Ailments (excluding Uncleanliness).

DISEASE OR DEFECT.	No. of Defects treated or under Treatment during the year.		
	Under Authority's Scheme.	Otherwise.	Total.
Skin—			
Ringworm—Head	110	92	202
Ringworm—Body	112	29	141
Scabies	43	12	55
Impetigo	1463	284	1747
Other Skin Diseases	451	170	621
Minor Eye Defects	1031	252	1283
Minor Ear Defects	828	326	1154
Miscellaneous	2985	843	3828
Total	7023	2008	9031